

### **RIVERINE (PERENNIAL STREAM)**

The Trinity River is the primary factor influencing wetland features associated with the sites. Riverine habitat, identified as the river itself, exhibits a distinct bed and bank feature (i.e., scouring), as well as continuous inundation, watermarks, drift lines, and sediment deposits.

### **INTERMITTENT STREAM**

Intermittent stream features are present at Lower Steiner Flat. In general, these streams have a narrow (1 to 3 foot wide) channel, show evidence of scour and deposition, and have limited vegetation present within the channel or along the somewhat incised banks. Flow within these streams is seasonal, but thought to originate from groundwater in addition to direct precipitation events.

### **RIPARIAN WETLANDS**

Riparian wetland features line the Trinity River corridor. These wetlands are characterized by a complex of open to dense emergent herbaceous and woody riparian growth. These sites include positive field indicators of wetland hydrology and hydric soils. Herbaceous plant species that almost always occur (> 99 percent probability) are designated as obligates (OBL) and herbaceous plant species that usually occur (> 67 percent probability) are designated as facultative wetland species (FACW). Common vegetation observed in riparian wetland features include: white alder (FACW<sup>8</sup>), Oregon ash (FACW), black cottonwood (FACW), Himalayan blackberry (FACW), California blackberry (FACW), narrow-leaved willow (OBL), arroyo willow (FACW), shining willow (NI), American dogwood (UPL), mugwort (FACW), California wild grape (FACW), torrent sedge (*Carex nudata* – FACW+), tall flatsedge (*Cyperus eragrostis* – FACW), least spikerush (*Eleocharis acicularis* – OBL), smooth scouring rush (*Equisetum laevigatum* – FACW), and reed canary grass (*Phalaris arundinacea* – OBL).

Within Lower Steiner Flat a high flow side-channel exists that begins to flow during mainstem Trinity River flows of approximately 4,500 cfs. The bank lines of the “side-channel” show indication of seasonal high flow (e.g., drift lines) that is visible in the field, however, they are predominantly vegetated by hydrophytic plants and exist below the OHWM. Consequently the side channel at Lower Steiner Flat is included within the riparian wetland acreages reported on the figures and within Table 11.

### **SEASONAL WET MEADOW**

An area identified as seasonal wet meadow was located within the Lower Steiner Flat Rehabilitation Site on the terrace above the floodplain (Figure 17). The feature is in a slight depression, and was still saturated to the surface during the January field visit. This delineated feature is dominated by Santa Barbara sedge (*C. barbarae* – FACW) with other less dominant hydrophytic species such as common bog rush (*Juncus effusus* – OBL) and reed canary grass.

### **SPRING/SEEP**

The spring/seep feature type is found in low abundance in the Lower Steiner Flat Rehabilitation Site. The feature appears to have water seeping from the adjacent hill slope into small wetlands. The 0.014-acre feature is cut by a small drainage and is dominated by wintercress

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<sup>8</sup> OBL = Obligate Wetland Plants    Estimated probability of occurring in wetland >99 percent  
FACW = Facultative Wetland Plants    Estimated probability of occurring in wetland >67 percent to 99 percent  
FAC = Facultative Plants    Estimated probability of occurring in wetland 33 percent to 67 percent  
FACU = Facultative Upland Plants    Estimated probability of occurring in wetland 1 percent to <33 percent  
UPL = Obligate Upland Plants    Estimated probability of occurring in wetland <1 percent  
NI = No Indicator    Insufficient information exists to assign a wetland status indicator

(*Barbarea orthoceras* – FACW), tall fescue, curly dock (*Rumex crispus* – FACW), and bog rush. The soils are mucky, and the feature was flooded and saturated. The feature is likely a result of subsurface water being forced to the surface by shallow bedrock, an outcropping of which is present just downslope from the feature.

#### **DEPRESSIONAL WETLAND**

Wetland features found within apparent mining-era excavations were labeled as depressional wetlands. This feature was present at the Lower Steiner Flat Rehabilitation Site. The vegetation community varied from what is described above for the seasonal wet meadow type. Plants observed in this wetland type include: tall fescue, curly dock, Baltic rush (*Juncus balticus* – OBL), bog rush, mugwort, reed canary grass, arroyo willow, Himalayan blackberry, and skunkbush (NI).

#### **SEASONAL WETLAND**

Seasonal wetlands were identified at the Lower Steiner Flat site. The seasonal wetland at Lower Steiner Flat is a series of ponded seasonal wetlands dominated by plants often found in vernal pool landscapes in the Central Valley of California. Plants observed include needle-leaf navarretia (*Navarretia intertexta* – OBL), spikerush (*Eleocharis* sp. – OBL) popcorn flower (*Plagiobothrys* sp. – FACW), seaside barley (*Hordeum marinum* – FAC), and annual hairgrass (*Deschampsia danthonioides* – FACW). This depression appears to be excavated by the river during extremely high flows; it is at the uppermost elevation of the HEC-RAS predicted OHWM. It is also affected by four-wheel drive vehicles, which appear to have deepened one of the pools in the complex.

#### **FRESH EMERGENT WETLAND**

Fresh emergent wetlands occur adjacent to the riverine system, in backwaters and depressions along the river, and in tailing pits that are saturated for long periods. This wetland type was present at Upper Junction City. Species present in this habitat include American tule (*Scirpus americanus* – OBL), narrow-leaved cattail (*Typha angustifolia* – OBL), dense sedge (*Carex densa* – OBL), and common spikerush (*Eleocharis macrostachya* – OBL).

### **3.7.1.5 Other Biological Resources**

Migratory birds and raptors (birds of prey) may nest within, or in close proximity to, the rehabilitation sites. Migratory birds and their nests are protected under the federal Migratory Bird Treaty Act (MBTA; 50 CFR 10 and 21). Most of the birds found in the project area are protected under the MBTA. Raptors are also protected under the California Fish and Game Code. The plant communities at the project sites provide suitable breeding and foraging habitat for several raptors, such as the red-tailed hawk (*Buteo jamaicensis*) and great horned owl (*Bubo virginianus*). Table 4.7-1 of the Master EIR noted that northern spotted owl (*Strix occidentalis caurina*) habitat does not exist in the project area. At Lower Steiner Flat the habitat for northern spotted owl was evaluated and considered marginal for foraging with too few large trees and excessive undergrowth. However, because the habitat was considered adequate for dispersal, spotted owl surveys were conducted in 2011. No spotted owls were located. Riparian habitat, which is considered a sensitive natural community by the CDFG, is present in the project areas along the Trinity River. Critical Winter Range for raptors is also present in areas along the Trinity River.

## **3.7.2 Environmental Consequences/Impacts and Mitigation Measures**

### **3.7.2.1 Methodology**

Methods used to assess potential impacts of the Proposed Project on vegetation and wildlife resources included a review of pertinent literature and data and field surveys. Evaluation of the presence of special-status species and sensitive habitats within the boundaries of the sites was conducted by performing a database search of the CNDDDB and informally consulting with resource agencies (e.g., CDFG, NMFS, and USFWS) regarding biological resource issues associated with the implementation of rehabilitation projects along the Trinity River. These efforts provided an overview of the quality and character of potential habitat present within the project reaches.

### **3.7.2.2 Significance Criteria**

Significance criteria used to analyze the potential impacts of the projects on vegetation, wildlife, and wetland resources include factual and scientific information and the regulatory standards of county, state, and federal agencies, including the CEQA guidelines. These criteria have been developed to establish thresholds to determine the significance of impacts pursuant to CEQA (Section 15064.7) and should not be confused with a “take” or adverse effect under the ESA. The Aquatic Conservation Strategy - Consistency Evaluation from Appendix A of the Master EIR is valid for the Proposed Project and included by reference.

Impacts on vegetation would be significant if implementation of the project would result in any of the following:

- Potential to substantially reduce the number or restrict the range of an endangered or threatened plant species or a plant species that is a candidate for state listing or proposed for federal listing as endangered or threatened;
- Potential for substantial reductions in the habitat of any native plant species including those that are listed as endangered or threatened or are candidates or proposed for endangered or threatened status;
- Potential for causing a native plant population to drop below self-sustaining levels;
- Potential to eliminate a native plant community;
- Substantial adverse effect, either directly or through habitat modifications, on any plant identified as a sensitive or special-status species in local or regional plans, policies, or regulations;
- Substantial adverse effect on the quantity or quality of riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations;
- A conflict with any local policies or ordinances regarding protection or control of vegetation resources;
- A conflict with, or violation of, the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, state, or federal habitat conservation plan relating to the protection of plant resources; or
- An increased potential for spread of non-native and invasive plant species.

Impacts on wildlife would be significant if implementation of the project would result in any of the following:

- Mortality of state or federally listed wildlife species, or species that are candidates for listing or proposed for listing;
- Potential for reductions in the number, or restrictions of the range, of an endangered or threatened wildlife species or a wildlife species that is a candidate for state listing or proposed for federal listing as endangered or threatened;
- Potential for substantial reductions in the habitat of any wildlife species, including those that are listed as endangered or threatened or are candidates or proposed for endangered or threatened status;
- Potential for causing a wildlife population to drop below self-sustaining levels;
- Substantially block or disrupt major terrestrial wildlife migration, or travel corridors;
- Substantial adverse effect, either directly or through habitat modifications, on any wildlife species identified as a sensitive or special-status species in local or regional plans, policies, or regulations;
- Substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations;
- A conflict with any state or local policies or ordinances protecting wildlife resources; or
- A conflict with, or violation of, the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, state, or federal habitat conservation plan relating to the protection of wildlife species.

Impacts on wetlands would be significant if they would result in any of the following:

- Substantial adverse effect on any riparian habitat;
- Substantial adverse effect on federally protected wetlands as defined by section 404 of the CWA through direct removal, filling, hydrological interruption, or other means;
- A conflict with any state or local policies or ordinances protecting wetland and/or riparian resources; or
- A conflict with, or violation of, the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, state, or federal habitat conservation plan relating to the protection of wetland resources.

### 3.7.2.3 Impacts and Mitigation Measures

Table 12 summarizes the potential vegetation, wildlife, and wetlands impacts that would result from the No-Project alternative and the Proposed Project.

<b>Table 12. Summary of Potential Vegetation, Wildlife, and Wetland Impacts for the No-Project and Proposed Project Alternatives</b>		
<b>No-Project Alternative</b>	<b>Proposed Project</b>	<b>Proposed Project With Mitigation</b>
Impact 3.7-1. Construction activities associated with the project could result in the loss of jurisdictional waters including wetlands.		
No impact	Significant	Less than significant
Impact 3.7-2. Implementation of the project would result in the loss of upland plant communities.		
No impact	Less than significant	Not applicable <sup>1</sup>

**Table 12. Summary of Potential Vegetation, Wildlife, and Wetland Impacts for the No-Project and Proposed Project Alternatives**

No-Project Alternative	Proposed Project	Proposed Project With Mitigation
Impact 3.7-3. Construction of the project could result in the loss of individuals of a special-status plant species.		
No impact	Less than significant	Not applicable <sup>1</sup>
Impact 3.7-4. Construction activities associated with the project could result in impacts to the state-listed little willow flycatcher.		
No impact	Significant	Less than significant
Impact 3.7-5. Construction activities associated with the project could result in impacts to foothill yellow-legged frog.		
No impact	Significant	Less than significant
Impact 3.7-6. Construction activities associated with the project could result in impacts to western pond turtle.		
No impact	Significant	Less than significant
Impact 3.7-7. Construction activities associated with the project could result in impacts to nesting Vaux's swift, California yellow warbler, and yellow-breasted chat.		
No impact	Significant	Less than significant
Impact 3.7-8. Construction activities associated with the project could result in impacts to nesting bald eagle and northern goshawk.		
No impact	Significant	Less than significant
Impact 3.7-9. Construction activities associated with the project could result in impacts to special-status bats and the ring-tailed cat.		
No impact	Significant	Less than significant
Impact 3.7-10. Construction activities associated with the project could result in the temporary loss of non-breeding habitat for several special-status birds.		
No impact	Less than significant	Not applicable <sup>1</sup>
Impact 3.7-11. Construction activities associated with the project could result in impacts to BLM and USFS sensitive species.		
No impact	Less than significant	Not applicable <sup>1</sup>
Impact 3.7-12. Construction activities associated with the project could restrict terrestrial wildlife movement through the project area.		
No impact	Less than significant	Not applicable <sup>1</sup>
Impact 3.7-13. Implementation of the project could result in the spread of non-native and invasive plant species.		
No impact	Significant	Less than significant

<sup>1</sup> Because this potential impact is less than significant, no mitigation is required.

Impact 3.7-1: Construction activities associated with the Proposed Project could result in the loss of jurisdictional waters including wetlands.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no loss of jurisdictional wetlands would occur because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Floodplain values and functions would be enhanced by the Proposed Project in conjunction with ROD flows released by the TRD. Consequently, substantial non-riparian areas beyond those identified in pre-project plant community delineations are expected to convert to riparian habitats (in some cases, jurisdictional wetlands), both seasonal and perennial, within a three to five year post-project window. At Lower Steiner Flat, the design includes increasing the period of flow (by

building low flow side channels) through riparian wetlands, which is expected to increase functional values and wildlife habitat value. At this site, the timing and extent of wetland enhancement would be dependent on implementation of Phase B. The TRRP would take advantage of opportunities during or after a project's construction to enhance wetland functions within a site or to create conditions required for functional jurisdictional wetlands (i.e., hydrology, vegetation, and hydric soils) to persist over time. For example, excavation of areas upslope (above the OHWM) to a depth coincident with medium- or low-flow (2,000–450 cfs) conditions may provide opportunities to establish the hydrologic conditions necessary for establishing functional jurisdictional wetlands.

Construction activities associated with the Proposed Project would result in temporary impacts to jurisdictional waters, including wetland features at the rehabilitation sites. These impacts would be considered significant. Figures 17, 18, and 19 show the acres of jurisdictional waters that would be affected by the Proposed Project. Construction of Phase A of the Proposed Project at the Lower Steiner Flat site would result in a direct temporary impact to 2.458 acres of riparian wetlands, 0.177 acres of depressional wetlands, 0.103 acres of seasonal wetlands, and 0.356 riverine acres. Construction of Phase B of the Proposed Project at the Lower Steiner Flat site would result in a direct temporary impact to 3.576 acres of riparian wetland, 0.056 acres of depressional wetland, 0.026 acres of seasonal wet meadow, 0.103 acres of seasonal wetland, and 0.832 riverine acres. Construction of the Proposed Project at the Upper Junction City site would result in a direct temporary impact to 2.992 acres of riparian wetland habitat and 0.253 riverine acres. Impacts to wetlands within the U-3 spoil area at the Lower Junction City site would be avoided.

#### **MITIGATION MEASURES**

Construction activities associated with the project could result in the loss of jurisdictional waters including wetlands. Therefore, mitigation measures 4.7-1a, 4.7-1b, and 4.7-1c described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of the specified mitigation measures would reduce the impacts to less than significant.

Impact 3.7-2: Implementation of the Proposed Project would result in the loss of upland plant communities.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no construction-related impacts to upland plant communities would occur because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

The Proposed Project would result in the temporary disturbance of upland plant communities (see Figures 15 and 16). At the Lower Steiner Flat site, impacts would occur during Phase A implementation in 2012 as well as during implementation of Phase B. While project activities would modify the contour and slope of upland areas, these areas would be subject to natural recruitment of native plants, supplemented by planting programs consistent with the TRRP vegetation management objectives including minimizing invasive species impacts and the enhancement of wildlife habitat. Over time, these upland areas would be revegetated to the degree that site conditions allow. A combination of replanting and natural revegetation would occur to ensure that upland habitat values on the Trinity River meet wildlife needs. The need for revegetation would be determined via monitoring, coordination with local resource agencies, and

adaptively managing to meet changing needs and desired future conditions. Temporary access routes and staging areas would be restored to their original condition upon completion of work. Additionally, any affected upland areas would be seeded with native plant species.

**Impact 3.7-3:** Construction of the Proposed Project could result in the loss of individuals of a special-status plant species.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no construction-related impacts to a special-status plant species would occur because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Pre-construction botanical surveys have been conducted at the Lower Steiner Flat and Upper Junction City Rehabilitation Sites following protocols outlined in the Master EIR. A similar survey would be conducted at the U-3 spoil area within the boundaries of the Lower Junction City Rehabilitation Site. Any impacts to special-status plant species would be significant.

#### **MITIGATION MEASURES**

Implementation of mitigation measures 4.7-3a, 4.7-3b, and 4.7-3c (Appendix A) will mitigate this impact to less than significant.

**Impact 3.7-4:** Construction activities associated with the Proposed Project could result in impacts to the state-listed little willow flycatcher (*Empidonax traillii*).

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no construction-related impacts to the little willow flycatcher would occur because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Suitable montane riparian habitat for the little willow flycatcher may be present at the Proposed Project sites; the species has previously been detected in the region (Wilson 1995; Miller, Ralph, and Herrera 2003; Herrera 2006). Consequently, little willow flycatchers may nest at the Proposed Project sites. Project activities (e.g., grading, vegetation removal) in montane riparian habitat may result in a temporary reduction of foraging habitat for this species. However, implementation of mitigation measures 4.6-1a, 4.6-1b, and 4.6-1c would ensure that there is no net loss of riparian habitat and a long-term increase in riparian habitat diversity. Due to the temporary nature of the impacts and the regional abundance of similar habitats, the project is not expected to have a significant impact on habitat for the little willow flycatcher. However, the removal of riparian vegetation and the noise associated with construction activities could disturb individuals nesting on or adjacent to the sites. Because activities at the Lower Steiner Flat site would occur in two phases, the potential disturbance could occur in 2012 and when Phase B is implemented. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Loss of fertile eggs or nesting little willow flycatchers or any activities resulting in nest abandonment would be considered a significant impact.

#### **MITIGATION MEASURES**

Construction activities associated with the Proposed Project could result in impacts to the state-listed little willow flycatcher. Therefore, mitigation measures 4.7-4a, 4.7-4b, 4.7-4c, and 4.7-4d described in Appendix A will be implemented to reduce the potential for impacts associated with

the Proposed Project. Implementation of the specified mitigation measures would reduce the impacts to less than significant.

Impact 3.7-5: Construction activities associated with the Proposed Project could result in impacts to the foothill yellow-legged frog (*Rana boylei*).

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no construction-related impacts to the foothill yellow-legged frog would occur. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

The foothill yellow-legged frog is known to occur in the Trinity River from the Lewiston Dam to the North Fork Trinity River (CDFG 2003b). Foothill yellow-legged Frog (*Rana boylei*) densities in the portion of the river near the Upper Junction City Rehabilitation Site are low. Two egg masses of foothill yellow-legged frog were observed on the downstream bar complex portion of the site in 2009 (USFWS and USBR 2011). Construction activities associated with the Proposed Project may affect foothill yellow-legged frogs directly and indirectly. Potential direct effects include mortality of individuals due to equipment and vehicle traffic, disturbance of boulders or cobbles that support egg masses, and the loss of riparian vegetation cover. The species may also be indirectly affected if construction activities result in degradation of aquatic habitat and water quality due to erosion and sedimentation, accidental fuel leaks, and spills. These impacts would be significant. Over the long term, the Proposed Project would benefit the species through the creation of additional and higher quality habitat, such as feathered edges and backwaters that would provide habitat for early life-stages.

#### **MITIGATION MEASURES**

Construction activities associated with the Proposed Project could result in impacts to the foothill yellow-legged frog. Therefore, mitigation measures 4.7-5a, 4.7-5b, 4.7-5c, and 4.7-5d described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of the specified mitigation measures would reduce the impacts to less than significant.

Impact 3.7-6: Construction activities associated with the Proposed Project could result in impacts to the western pond turtle (*Actinemys marmorata*).

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no construction-related impacts to the western pond turtle would occur because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Riverine and riparian habitats along the Trinity River provide suitable habitat for the western pond turtle, although densities in the portion of the river near the Upper Junction City Rehabilitation Site were observed to be low (USFWS and USBR 2011). Construction activities associated with the Proposed Project could affect pond turtles directly and indirectly. Potential direct effects include mortality of individuals due to equipment and vehicle traffic, disturbance to nests in upland areas, and the loss of riparian cover. The species may also be indirectly affected if construction activities result in degradation of aquatic habitat and water quality due to erosion and sedimentation, accidental fuel leaks, and spills. These impacts would be significant. However, over the long term, the project would benefit the species through the creation of additional and higher quality habitat.

For example, removal of riparian berms would improve access to potential upland nesting and overwintering sites, and the creation of side channels and alcoves with LWD would provide slow-water basking and foraging habitat.

#### **MITIGATION MEASURES**

Construction activities associated with the Proposed Project could result in impacts to the western pond turtle. Therefore, mitigation measures 4.7-6a, 4.7-6b, 4.7-6c, 4.7-6d, and 4.7-6e described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of the specified mitigation measures would reduce the impacts to less than significant.

Impact 3.7-7: Construction activities associated with the Proposed Project could result in impacts to nesting Vaux's swift (*Chaetura vauxi*), California yellow warbler (*Dendroica petechia*), and yellow-breasted chat (*Icteria virens*).

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no construction-related impacts to nesting California yellow warblers, yellow-breasted chats, and Vaux's swifts would occur. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

The riparian community commonly found along the Trinity River in the vicinity of the Proposed Project sites provides suitable nesting and foraging habitat for the California yellow warbler and yellow-breasted chat. The conifer habitat in the region also provides habitat for the Vaux's swift. Consequently, project activities may result in impacts to these California Species of Special Concern. The Proposed Project may result in a temporary reduction of foraging and/or roosting habitat for these species. However, implementation of mitigation measures 4.7-1a, 4.7-1b, and 4.7-1c would ensure that there is no net loss of riparian habitat. Furthermore, project implementation would result in a long-term increase in riparian habitat diversity, increasing the quality of the habitat for the California yellow warbler and yellow-breasted chat. Due to the temporary nature of the impacts and the regional abundance of similar habitats, the project is not expected to have a significant impact on habitat for the California yellow warbler, yellow-breasted chat, or Vaux's swift. However, the removal of vegetation and the noise associated with construction activities could disturb individuals nesting on or adjacent to the sites. Because activities at the Lower Steiner Flat site would occur in two phases, the potential disturbance could occur in 2012 and during implementation of Phase B. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Loss of fertile eggs or nesting individuals or any activities resulting in nest abandonment would be a significant impact.

#### **MITIGATION MEASURES**

Construction activities associated with the Proposed Project could result in impacts to nesting Vaux's swift, California yellow warbler, and yellow-breasted chat. Therefore, mitigation measures 4.7-7a, 4.7-7b, 4.7-7c, and 4.7-7d described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of the specified mitigation measures would reduce the impacts to less than significant.

Impact 3.7-8: Construction activities associated with the Proposed Project could result in impacts to nesting bald eagle (*Haliaeetus leucocephalus*) and northern goshawk (*Accipiter gentilis*).

**NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no construction-related impacts to active raptor nests would occur because the project would not be constructed. Therefore, there would be no impact.

**PROPOSED PROJECT**

The hardwood and conifer communities commonly found along the Trinity River in the project region provide suitable nesting and foraging habitat for the bald eagle, designated by the State of California as endangered, and the northern goshawk, designated as a California Species of Special Concern. The Proposed Project may result in a temporary reduction of foraging and/or roosting habitat for these species. The R-3 element proposed during Phase B at the Lower Steiner Flat site would result in alders being pulled into the river, permanently removing that roosting habitat. Overall, as a result of the temporary nature of the impacts and the regional abundance of similar habitats, the project is not expected to have a significant impact on habitat for the bald eagle or northern goshawk. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Loss of fertile eggs or nesting bald eagles or goshawks, or any activities resulting in nest abandonment, would be a significant impact.

**MITIGATION MEASURES**

Construction activities associated with the Proposed Project could result in impacts to nesting bald eagle and northern goshawk. Therefore, mitigation measures 4.7-8a, 4.7-8b, 4.7-8c, and 4.7-8d described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of the specified mitigation measures would reduce the impacts to less than significant.

Impact 3.7-9: Construction activities associated with the Proposed Project could result in impacts to special-status bats and the ring-tailed cat (*Bassariscus astutus*).

**NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no construction-related impacts to breeding special-status bats or the ring-tailed cat would occur because the project would not be constructed. Therefore, there would be no impact.

**PROPOSED PROJECT**

The Trinity River riparian corridor provides suitable roosting and/or foraging habitat for four bat species: the long-eared myotis, pallid bat, Yuma myotis, and Townsend's western big-eared bat. Two of these bat species (long-eared myotis bat and pallid bat) may roost in trees (e.g., spaces under tree bark or in cavities) as well as caves and buildings, while the other two species (Townsend's western big-eared bat and Yuma myotis) prefer to nest in structures such as buildings, bridges, caves, and mines. For the long-eared myotis and pallid bat (species that roost in trees), habitat preference is typically woodland and forest habitat. It is unlikely that these bats would roost in the willows and alders typically found immediately along the Trinity River. However, they may roost in habitats more likely to contain large trees with cavities or loose bark, such as montane hardwood.

Noise and visual disturbances associated with construction activities may disrupt bats roosting within and directly adjacent to the project areas. Because activities at the Lower Steiner Flat site would occur in two phases, the potential disturbance could occur in 2012 and during Phase B implementation. Further, removing large trees with cavities could result in the direct loss of colonies, which would be considered a significant impact.

Each of these bat species has the potential to forage in the rehabilitation sites. Foraging habitat typically consists of forested areas in close association with water. Construction activities associated with the Proposed Project could temporarily alter the foraging patterns of these species. However, this would be considered a less than significant impact based on the abundance of suitable foraging habitat in the region. No long-term adverse impacts to foraging habitat associated with project implementation are anticipated.

The Trinity River riparian corridor also provides habitat for the ring-tailed cat. The willows and alders found immediately along the river are unlikely to provide suitable den habitat for this species due to the small size of the trees and lack of large cavities or snags. However, other habitats in the project area, such as montane hardwood and montane hardwood-conifer habitats, may provide suitable den sites. Thus, removal of large trees with cavities or snags could result in the loss of ring-tailed cats, which would be considered a significant impact. Construction activities would also result in a short-term reduction in foraging habitat for this species. However, the project would ultimately result in an increase in habitat and an increase in habitat quality for this species. Due to the abundance of similar habitat in the area, the temporary loss of foraging habitat would be a less than significant impact.

#### **MITIGATION MEASURES**

Construction activities associated with the project could result in impacts to special-status bats and the ring-tailed cat. Therefore, mitigation measures 4.7-9a, 4.7-9b, and 4.7-9c described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of these mitigation measures would reduce the impacts to less than significant.

**Impact 3.7-10:** Construction activities associated with the proposed project could result in the temporary loss of non-breeding habitat for special-status birds.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no construction-related impacts to non-breeding habitat for sensitive species would occur because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

The Trinity River riparian corridor provides both foraging and perching habitat for golden eagles, American peregrine falcons, and black swifts, and suitable nesting habitat may be present in some locations. Construction activities associated with the proposed project could temporarily alter the foraging patterns of these species. Because activities at the Lower Steiner Flat site would occur in two phases, the potential disturbance at this site could occur in 2012 and when Phase B is implemented. However, this impact would be considered less than significant based on the abundance of suitable foraging habitat in the vicinity of the Proposed Project sites. No long-term adverse impacts to foraging habitat associated with project implementation are anticipated. The

loss of potential perch or nesting trees would not affect the abundance of these species or their use of the Trinity River for foraging.

**Impact 3.7-11:** Construction activities associated with the proposed project could result in impacts to BLM and USFS sensitive species (Pacific fisher).

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no construction-related impacts to BLM or USFS sensitive species would occur because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Several of the special-status wildlife species with potential to occur at the sites are designated BLM or USFS sensitive species: foothill yellow-legged frog, western pond turtle, northern goshawk, little willow flycatcher, Pacific fisher, long-eared myotis bat, pallid bat, Townsend's western big-eared bat, and Yuma myotis bat. With the exception of the Pacific fisher, potential impacts to these species are discussed as separate impacts above. The Pacific fisher may use the Trinity River as a travel corridor; however, suitable den habitat is not present at the sites. Therefore, the impact would be less than significant.

#### **MITIGATION MEASURES**

Construction activities associated with the project could result in impacts to BLM and USFS sensitive species. Therefore, the following mitigation measures described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Mitigation measures 4.7-4a, 4.7-4b, and 4.7-4c would reduce impacts to the little willow flycatcher to a less than significant level. Mitigation measures 4.7-5a, 4.7-5b, 4.7-5c, and 4.7-5d would reduce the impacts to the foothill yellow-legged frog to a less than significant level. Mitigation measures 4.7-6a, 4.7-6b, 4.7-6c, and 4.7-6d would reduce the impacts to the western pond turtle to a less than significant level. Mitigation measures 4.7-8a, 4.7-8b, and 4.7-8c would reduce the impacts to the northern goshawk to a less than significant level, and mitigation measures 4.7-9a and 4.7-9b would reduce the impacts to special-status bat species to a less than significant level. Since no significant impacts for the Pacific fisher were identified, no mitigation is required.

**Impact 3.7-12:** Construction activities associated with the proposed project could restrict terrestrial wildlife movement through the project area.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, construction-related restriction of terrestrial wildlife movement through the sites would not occur because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Construction noise and activity would not significantly impede the seasonal migration of the Weaverville deer herd from high-elevation summer habitats to lower elevation critical winter ranges. Construction noise could temporarily alter foraging patterns of resident wildlife species, and vegetation removal along the river could temporarily disrupt wildlife movement through the area. Because activities at the Lower Steiner Flat site would occur in two phases, the potential disruption at this site could occur in 2012 and during implementation of Phase B. However, no long-term impediments to wildlife movement within the sites are anticipated as a result of implementing the Proposed Project. Therefore, this would be a less than significant impact.

Impact 3.7-13: Implementation of the proposed project could result in the spread of non-native and invasive plant species.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, the spread of non-native and invasive plant species would not occur as a result of construction activities because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Project implementation could result in the spread of non-native and invasive plant species (e.g., Himalayan blackberry, yellow star-thistle) during ground-disturbing activities. This would be considered a significant impact. Implementation of the mitigation measures described below would address the potential for spread of weeds.

#### **MITIGATION MEASURES**

Implementation of the project could result in the spread of non-native and invasive plant species. Therefore, mitigation measures 4.7-13a, 4.7-13b, 4.7-13c, 4.7-13d, 4.7-13e, 4.7-13f, and 4.7-13g described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of these mitigation measures would reduce the impacts to less than significant.

### **3.8 Recreation**

This section describes the recreation resources within the boundaries of the Proposed Project sites and evaluates the effects of the Proposed Project on these resources. The Proposed Project's conformance with the federal and state Wild and Scenic Rivers Acts (WSRAs) is evaluated and the Wild and Scenic River Section 7 Analysis and Determination from Appendix B of the Master EIR is incorporated by reference. Recreation resources are further addressed in the Trinity River Master EIR, Section 4.8.

#### **3.8.1 Affected Environment/Environmental Setting**

The federal government manages about 72 percent of the land in Trinity County. BLM is the primary land manager for public lands between Lewiston Dam and the confluence of the North Fork Trinity River, including lands in the corridor of the mainstem Trinity River that comprise portions of the Proposed Project sites. Recreational opportunities are generally available on BLM-managed lands. The Trinity River was designated as a National Wild and Scenic River in 1981. The designated Wild and Scenic reach extends from Lewiston Dam downstream to Weitchpec. Three tributaries to the Trinity River are also designated as Wild and Scenic: the New River, South Fork Trinity River, and North Fork Trinity River. Two scenic byways cross Trinity County: the Trinity Heritage Scenic Byway and the Trinity Scenic Byway. These byways provide scenic travel routes through Trinity County for residents and visitors.

The Trinity River provides year-round recreation opportunities. These opportunities include boating, kayaking, canoeing, rafting, inner tubing, fishing, swimming, wading, camping, gold panning, nature study, picnicking, hiking, and sightseeing. Fishing for chinook salmon, steelhead, and rainbow and brown trout are major recreational activities on the Trinity River throughout the year. Although instream recreational activities occur throughout the year, they are most prevalent between the months of April and February. Access to the Trinity River is available from both

public and private lands, and ranges from undeveloped or primitive use areas to fully developed commercial resorts. Developed recreation areas along the Trinity River consist of private campgrounds, resorts, and lodges; public campgrounds and picnic areas; and fishing access sites. Numerous river access sites occur between Lewiston Dam and Weitchpec. Although public use is restricted at most private river access points, public agencies, including BLM, STNF, CDFG, and DWR offer a number of public river access points throughout the 40-mile reach. Public river access is not only used for a variety of water-based recreational activities, but for other activities as well, such as wildlife viewing and picnicking. River access and recreational development is concentrated around the communities of Lewiston, Douglas City, and Junction City.

Recreational opportunities are more prevalent at the Lower Steiner Flat Rehabilitation Site than at the Upper Junction City or Lower Junction City sites. Although the land within the boundary of the Lower Junction City site is private some recreational use, primarily fishing, occurs there. The Upper Junction City Rehabilitation Site is comprised primarily of private property on the left bank, with a greater proportion of BLM-managed lands on river right resulting in greater potential use of the side of the river for fishing access. On the other hand, because the Lower Steiner Flat site is comprised entirely of BLM-managed lands it offers a variety of recreational opportunities, such as camping, fishing, rafting, and swimming. The BLM's Steiner Flat campground attracts recreationists to this location, and the large boulders and bedrock in this reach create deep holes enjoyed by anglers and swimmers. The existing primitive campsite at Lower Steiner Flat on river right between RM 90.5 and 90.1 is used frequently and the day use area upstream of the campground near RM 90.75 contains a popular swimming hole and raft launch (the "Chop Tree" ramp) (CH2MHill 2011).

### **3.8.2 Environmental Consequences/Impacts and Mitigation Measures**

#### **3.8.2.1 Methodology**

The analysis of the potential effect on recreation resources as a result of the Proposed Project consists of identifying recreational resources (e.g., recreation facilities) near the boundaries of the sites and determining whether implementation of the action would impact these resources. This analysis is qualitative. In addition to evaluating the impacts on recreational resources, an evaluation was made of the Proposed Project's consistency with Trinity County recreation objectives and state and federal Wild and Scenic River designations. The WSRA Section 7 Determination for the Remaining Phase 1 and Phase 2 sites is included as Appendix A of the Trinity River Master EIR.

#### **3.8.2.2 Significance Criteria**

Impacts associated with recreational uses would be significant if the project would:

- Conflict with established or planned recreational uses within the sites' boundaries;
- Substantially affect existing recreational opportunities; or
- Result in an increase in the use of the existing neighborhood, regional parks, public lands in general, or other recreational facilities such that substantial deterioration of these facilities would occur or be accelerated.

The following criteria were used to determine if the Proposed Project's impacts to riverine recreation would be significant:

- A substantial increase in turbidity so as to negatively affect recreation aesthetics;
- Incompatibility with the federal or state wild and scenic river designation, which is defined as jeopardizing the river's scenic, recreational, or fish and wildlife resources; or
- Non-compliance with Trinity County recreation resource objectives.

### 3.8.2.3 Impacts and Mitigation Measures

Table 13 summarizes the potential recreation impacts resulting from the Proposed Project's implementation.

<b>Table 13. Summary of Potential Recreation Impacts for the No-Project and Proposed Project Alternatives</b>		
<b>No-Project Alternative</b>	<b>Proposed Project</b>	<b>Proposed Project With Mitigation</b>
Impact 3.8-1. Construction associated with the project could disrupt recreation activities, such as boating, fishing, and swimming, in the Trinity River.		
No impact	Significant	Less than significant
Impact 3.8-2. Construction of the project could result in an increased safety risk to recreational users or resource damage to recreational lands within the project boundaries.		
No impact	Significant	Less than significant
Impact 3.8-3. Construction activities associated with the project could lower the Trinity River's aesthetic value for recreationists by increasing its turbidity.		
No impact	Significant	Less than significant
Impact 3.8-4. Implementation of the project could affect Wild and Scenic River values.		
No impact	Less than significant	Not applicable <sup>1</sup>

<sup>1</sup> Because this potential impact is less than significant, no mitigation is required.

Impact 3.8-1: Construction associated with the proposed project could disrupt recreation activities such as boating, fishing, and swimming in the Trinity River.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, there would be no disruption of recreation activities in the Trinity River, such as boating, fishing, and swimming, because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

During project implementation, there would be construction equipment and activity within the active river channel, the floodplain, and adjacent upland areas in close proximity to the Trinity River. Proposed activities would include vegetation removal and grading. Overall, treatments proposed within the activity areas described in Chapter 2 could result in temporary interruptions of public access and use in the immediate vicinity of the activity areas. Because activities at the Lower Steiner Flat site would occur in two phases, the potential disturbance could occur in 2012 and when Phase B is implemented. The Lower Steiner Flat campground would be closed during the period of Phase A construction. Closure of the "Chop Tree" boat ramp in C-6 would be minimized. However, river access would continue to be available at other locations along the river. Although potential disruptions to recreational activities within the sites would be temporary, this impact would be significant.

**MITIGATION MEASURES**

Construction associated with the Proposed Project could disrupt recreation activities such as boating, fishing, and swimming in the Trinity River and camping, particularly at the Steiner Flat campground. Therefore, mitigation measures 4.8-1a and 4.8-1b will be implemented to reduce the potential for impacts associated with the Proposed Project.

Impact 3.8-2: Construction of the proposed project could result in an increased safety risk to recreational users or resource damage to lands within the project boundaries.

**NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, there would be no safety risks to recreational users or resource damage to lands within the project boundaries because the project would not be constructed. Therefore, there would be no impact.

**PROPOSED PROJECT**

During construction of the Proposed Project, there would be heavy equipment activity and construction vehicle traffic operating within, and immediately adjacent to, the Trinity River. At the Lower Steiner Flat site, impacts could occur during Phase A implementation in 2012 as well as during implementation of Phase B. Activities associated with in-channel treatments would occur between July 15 and September 15. However, work directly adjacent to the river might continue for the duration of the construction period. Vehicular access to activity areas, including both uplands and in-channel areas, would be limited to authorized personnel.

Temporary, construction activities associated with the Proposed Project could pose a significant hazard to recreational users of the river and cause resource damage to recreational lands within the project boundaries. Potential hazards to recreationists include the operation of construction equipment and vehicles in and around the rehabilitation sites, changes in the river's subsurface movement as a result of the in-channel addition or removal of gravel, the addition of LWD into the channel, and an increased potential for a hazardous materials spill (e.g., diesel and hydraulic fluid) presented by construction equipment and vehicles operating in and adjacent to the river. Potential hazards to resources on recreational lands within project boundaries include an increased potential for hazardous materials spills and unstable riverbanks and/or uplands resulting from excavation, material addition, road creation, and vegetation removal. These impacts would be temporary, but significant.

Post-construction, activity areas would be evaluated by Reclamation in conjunction with land managers and owners to identify specific prescriptions required to minimize any further potential safety risks to recreational users and to ensure the avoidance of any further project effects to resources occurring on recreational lands within the project boundaries.

**MITIGATION MEASURES**

Construction of the Proposed Project could result in an increased safety risk to recreational users or resource damage to lands within the project boundaries. Therefore, mitigation measures described above for Impact 3.8.1 will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of the specified mitigation measures would reduce the impacts to less than significant.

Impact 3.8-3: Construction activities associated with the proposed project could lower the Trinity River's aesthetic values for recreationists by increasing its turbidity.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, turbidity levels in the Trinity River would not increase because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Implementation of the Proposed Project could increase turbidity in the Trinity River for some distance downstream. The level of this increase would largely be dependent on the flow regime at the time of the project. Flows that typically contribute to good fishing tend to be clear thus, nominal increases in turbidity may affect the recreational experience of anglers and the aesthetic values held by other user groups. Water quality objectives for the Trinity River specifically prohibit the discharge of any materials into the river that could cause a nuisance or adversely affect beneficial uses (e.g., recreation).

The Regional Water Board's Basin Plan (North Coast Regional Water Quality Control Board 2007) includes two specific prohibitions directed at construction, logging and other associated non-point source activities:

- The discharge of soil, silt, bark, sawdust, or other organic and earthen material from any logging, construction, or associated activity of whatever nature into any stream or watercourse in the basin in quantities deleterious to fish, wildlife, or other beneficial uses is prohibited.
- The placing or disposal of soil, silt, bark, slash, or sawdust or other organic and earthen material from any logging, construction or associated activity of whatever nature at locations where such material could pass into any stream or watercourse in the basin in quantities deleterious to fish, wildlife, or other beneficial uses is prohibited.

Implementation of the Proposed Project would increase the potential for turbidity and total suspended solids during construction activities. At the Lower Steiner Flat site, impacts could occur during Phase A implementation in 2012 and during implementation of Phase B. Fine sediments could be suspended in the river for several hours following in-channel activities. The extent of downstream sedimentation would be a function of the instream flow velocity and particle size. For example, fine-grained sediments like silts and clays could be carried several thousand feet downstream of the activity area, while larger-sized sediments like sands and gravels would tend to drop out of the water column within several feet of the construction limit. Increased turbidity and suspended solids levels would adversely affect water quality (refer to Section 4.5, Water Quality, of the Trinity River Master EIR) and could adversely affect anadromous fish species that are known to occur in the Trinity River (refer to Section 4.6, Fisheries Resources, of the Trinity River Master EIR), and could have a noticeable effect on the river's aesthetics. Increases in turbidity would be a significant impact.

#### **MITIGATION MEASURES**

Construction activities associated with the proposed project could lower the Trinity River's aesthetic values for recreationists by increasing its turbidity. Therefore, the mitigation measures 4.5-1a, 4.5-1b, 4.5-1c, 4.5-1d, and 4.5-1e identified to protect water quality and described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed

Project. Implementation of these mitigation measures would reduce the impacts to less than significant.

Impact 3.8-4: Implementation of the proposed project could affect Wild and Scenic River values.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, there would be no adverse impacts to Wild and Scenic River values because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Construction and implementation of the Proposed Project would have a temporary effect on the scenic and recreational components of the Trinity River's Wild and Scenic River values. However, this temporary impact would be less than significant because the rehabilitation activities would ultimately enhance the overall form and function of the Trinity River, thereby enhancing the outstandingly remarkable values for which it was designated a Wild and Scenic River. Temporary impacts on the scenic quality of the river are previously discussed under Impact 3.8-3 and in Section 3.12 (Aesthetics). The impact on Wild and Scenic River values would be less than significant because project activities would be temporary and would ultimately enhance the "natural" qualities of the river.

### **3.9 Socioeconomics**

This section evaluates potential impacts on socioeconomic conditions, population, and housing from project implementation at the Proposed Project sites. This section is tiered to the detailed discussion of regional socioeconomic conditions, population, and housing in the Trinity River Master EIR (Section 4.9) as well as additional information for the Phase 1 sites contained in Section 7.9. Information regarding poverty rates and population by race and ethnicity is included in Section 3.18, Environmental Justice. Much of the information in this section is derived from Trinity County 2007: Economic and Demographic Profile (Center for Economic Development 2007). Trinity County is a rural region with substantial amounts of public land and a minimal private land base. As a result, the region is largely dependent on natural resources and recreation-based industries for its economic base.

#### **3.9.1 Affected Environment/Environmental Setting**

##### **3.9.1.1 Labor Market, Population, and Housing**

The labor market, population, and housing discussions in the Trinity River Master EIR (Section 4.9) provide general information that applies to the Proposed Project sites.

#### **LABOR MARKET**

The average total labor force in Trinity County between the years of 1991 and 2006 was 5,250 people (California Employment Development Department 2008; Center for Economic Development 2007). Annual variations have ranged from 4,850 people in 1999 to 5,420 people in 2003 (California Employment Development Department 2008; Center for Economic Development 2007). The majority of Trinity County's labor force is concentrated in Weaverville and Hayfork. Trinity County's unemployment rate has been and continues to be consistently higher than the California average. In December 2010 unemployment in Trinity County was 20.5 percent (California Employment Development Department 2011).

## **POPULATION**

Trinity County's population continues to grow at a considerably lower rate than California on average, and was ranked by the U.S. Census Bureau as 54th in total population out of 58 California counties (U.S. Census Bureau 2008). Declines in the timber industry and an attendant loss of jobs have had a significant effect on the county's population.

The population of Trinity County is generally characterized by a higher proportion of white and retirement-age persons and lower proportions of Native American, Hispanic, and young working-age persons (Center for Economic Development 2007). The county's demographics are influenced by the large amount of federally owned land in combination with land used for private industrial timber production (10 percent), much of which is restricted from development due to zoning as a Timber Production Zone (Trinity County 2003). Thus, only about 15 percent of the county is private land usable for development purposes. The county's rugged terrain and remote location also influence its demographics by limiting the developable area. Most of the population of Trinity County is concentrated in Weaverville, Hayfork, and Lewiston. Education levels of residents are typical of most rural northern California counties, with a greater proportion of high school graduates and a smaller proportion of college graduates (Center for Economic Development 2007).

## **HOUSING**

The total number of housing units in Trinity County in 2006 is estimated at 8,251 (U.S. Census Bureau 2008). The total number of occupied housing units is estimated at 5,587 (U.S. Census Bureau 2008). During the period of 2000 to 2007, there were 374 single family homes constructed in Trinity County; only two of these were multifamily units (California Employment Development Department 2008). The community of Junction City offers limited services, including several commercial enterprises, a USFS work station, a U.S. Post Office, and Junction City Elementary School. This community has two commercial sand and gravel operations, as well as several recreation-based businesses, which include RV parks, lodges, and rafting and fishing guides that operate along the Trinity River between Lewiston and Big Bar. The community of Douglas City also offers limited services, including several commercial enterprises, a U.S. Post Office, a water treatment plant, and Douglas City Elementary School. The community has several recreation-based businesses including Douglas City Campground, Trinity Island Resort, Indian Creek Trailer and RV Park, Indian Creek Lodge, and Trinity River Outfitters. These businesses provide economic benefits to local communities and the county; however, the communities are primarily residential.

There is little likelihood that parcels in the vicinity of the Proposed Project sites would be further subdivided because of their location in the floodplain, zoning restrictions, soil conditions, and minimal county services (e.g., community water service). Zoning designations within the communities of Junction City and Douglas City are largely residential, with minimum parcel sizes ranging from 1 to 40 acres (Trinity County 2003). The Rural Residential zoning requires a minimum parcel size of 1 to 5 acres to retain the rural character of the area. In addition, portions of many parcels located directly adjacent to the river are designated as Flood Hazard and Open Space zones, restricting further development in these areas. Therefore, there is little potential for increased development densities in and around the rehabilitation sites. BLM-managed public lands in and adjacent to the Proposed Project sites are primarily managed for resource and recreation uses, and planned development would need to be consistent with resource and recreation goals and objectives of agency management plans.

### 3.9.2 Environmental Consequences/Impacts and Mitigation Measures

#### 3.9.2.1 Methodology

The following section provides a brief overview of the analytic methods used to assess the potential socioeconomic impacts of the Proposed Project. These methods included qualitative assessments of potential impacts associated with employment, income, conflicts with county and local plans, population growth, displacement of persons and businesses, and community disruption. For this assessment, Trinity County is considered to be the area of potential socioeconomic impact.

#### 3.9.2.2 Significance Criteria

For purposes of CEQA, under which “economic or social impacts of the Proposed Project shall not be treated as significant impacts on the environment,” impacts on population and housing are relevant only if they either (i) directly relate to an impact on the physical environment, in which case a lead agency may, but need not, consider economic or social impacts in determining whether such physical impacts are significant, or (ii) would result in a reasonably foreseeable indirect impact on the physical environment (See CEQA Guidelines, § 15131). Under CEQA, the Proposed Project would have a significant impact on population and housing if it:

- Induces substantial growth in an area, either directly or indirectly;
- Displaces substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; and/or
- Displaces substantial numbers of people, necessitating the construction of replacement housing elsewhere.

#### 3.9.2.3 Impacts and Mitigation Measures

Table 14 summarizes the potential socioeconomic impacts that could result from implementation of the No-Project alternative and the Proposed Project.

<b>Table 14. Summary of Potential Impacts on Socioeconomics for the No-Project and Proposed Project Alternatives</b>		
<b>No-Project Alternative</b>	<b>Proposed Project</b>	<b>Proposed Project With Mitigation</b>
3.9-1. Construction of the project would provide temporary employment opportunities for construction workers in Trinity County.		
No impact	Beneficial	Not applicable <sup>1</sup>
3.9-2. Implementation of the project could result in the disruption or displacement of local businesses.		
No impact	Less than significant	Not applicable <sup>1</sup>
3.9-3. Implementation of the project would result in an increased demand for housing during construction.		
No impact	Less than significant	Not applicable <sup>1</sup>
3.9-4. Implementation of the project would result in concentrated population growth.		
No impact	Less than significant	Not applicable <sup>1</sup>

<sup>1</sup> Because this potential impact is beneficial or less than significant, no mitigation is required.

Impact 3.9-1: Construction of the proposed project would provide temporary employment opportunities for construction workers in Trinity County.

**NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no employment opportunities would be created because the project would not occur. Therefore, there would be no impact.

**PROPOSED PROJECT**

Project implementation would generate temporary construction-related employment in Trinity County. The generation of employment would be a beneficial effect in the local economy, even if the employment is short-lived. The exact number of design, construction, and clerical positions required to complete the Proposed Project is undetermined, but implementation of the rehabilitation activities is expected to add a small percentage to existing local jobs for the project duration. The duration of employment would be dependent on the length of the contracting and construction period (anticipated to be approximately six months). Because activities at the Lower Steiner Flat site would occur in two phases there would be two periods of construction-related employment, one in 2012 and one when Phase B is implemented. Although the Proposed Project would provide direct local employment opportunities only if workers are hired from the local labor force, this potential impact would be beneficial.

Impact 3.9-2: Implementation of the proposed project could result in the disruption or displacement of local businesses.

**NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no disruption or displacement of local businesses would take place because the project would not occur. Therefore, there would be no impact.

**PROPOSED PROJECT**

Local businesses in the vicinity of the sites would not be disrupted or displaced by activities associated with the Proposed Project. Construction equipment and vehicle access would not impair access to local businesses, and business operations would not be impaired. Businesses that operate on the river, such as rafting and fishing guides, could be affected by a lack of access at the Lower Steiner Flat site because the existing river access point at this location would not be available for a period of time. Because activities at the Lower Steiner Flat site would occur in two phases, the potential disturbance could occur in 2012 and when Phase B is implemented. However, because numerous other locations are available in the vicinity of this site, the impact would be less than significant.

Impact 3.9-3: Implementation of the proposed project would result in an increased demand for housing during construction.

**NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no increased demand for housing during construction would take place because the project would not occur. Therefore, there would be no impact.

**PROPOSED PROJECT**

The area surrounding the communities of Junction City and Douglas City are primarily rural residential areas, and few rental opportunities are available. What rental property does occur in adjacent rural residential areas is typically seasonal rental property available for recreational users.

More readily available short-term apartment and single-family rentals are concentrated in the nearby community of Weaverville and, to a lesser degree, Hayfork.

Implementation of the Proposed Project would not result in the displacement of any individual from his or her home. It is not anticipated that any short-term increase in the demand for housing in Weaverville would occur as a result of construction workers seeking lodging during the project staging and construction period (primarily July through October) for the Proposed Project. Based on the estimated increase in annual employment generated by the project (approximately 20 to 30 persons for the whole project as described in the Trinity River Master EIR), this would be a less than significant impact, both regionally and locally. In addition to accommodating the short-term demands for housing during previous TRRP rehabilitation projects, the nearby communities have been capable of meeting short-term increases in housing demands resulting from a large influx of fire suppression personnel on a recurring basis. These projects would generate a much smaller number of housing needs in comparison to the housing demands generated by wildland fires, and the impact would occur only in the short term. Therefore, the impact would be less than significant.

Impact 3.9-4: Implementation of the proposed project would result in concentrated population growth.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no population increases would occur because the project would not occur. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

The Proposed Project would require about 20 to 30 individuals during implementation. Because activities at the Lower Steiner Flat site would occur in two phases, the potential disturbance could occur in 2012 and when Phase B is implemented. An increase in population is not anticipated; if any increase were to occur it would likely occur on a temporary basis. Based on current populations in the local communities, the projected number of workers that could move to the greater Weaverville area would result in a localized increase of less than one percent on a temporary basis. This amount would not constitute a significant change in population. Workers would likely be drawn from the local work force, which would further lessen population growth associated with the project implementation. Overall, this impact would be less than significant.

### **3.10 Cultural Resources**

Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. The National Historic Preservation Act (NHPA) of 1966 is the primary Federal legislation that outlines the Federal government's responsibility to cultural resources. Section 106 of the NHPA requires the Federal government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places (NRHP). Those resources that are on or eligible for inclusion in the NRHP are referred to as historic properties.

The Section 106 process is outlined in the Federal regulations at 36 CFR 800. These regulations describe the process that the Federal agency (Reclamation) takes to identify cultural resources and the level of effect that the proposed undertaking will have on historic properties. In summary,

Reclamation must first determine if the action is the type of action that has the potential to affect historic properties. If the action is the type of action to affect historic properties, Reclamation must identify the area of potential effects (APE), determine if historic properties are present within that APE, determine the effect that the undertaking will have on historic properties, and consult with the State Historic Preservation Officer, to seek concurrence on Reclamation's findings. In addition, Reclamation is required through the Section 106 process to consult with Indian Tribes concerning the identification of sites of religious or cultural significance, and consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties.

The CEQA is the primary State statute that guides cultural resources considerations for actions involving State or local agencies. Similar to the NHPA the CEQA process seeks to identify cultural resources that are significant and are eligible for inclusion in the California Register of Historical Resources (CRHR) (PRC, Section 21084.1). The guidelines for considering impacts to cultural resources under CEQA are located in the CEQA guidelines Section 15064.5. If actions result in significant and unavoidable impacts to resources eligible for inclusion in the CRHR, these effects must be mitigated through prescribed procedures. According to the CEQA guidelines if a cultural resource is eligible for inclusion in the NRHP it is eligible for inclusion on the CRHR and a means of mitigating significant and unavoidable impacts under CEQA can be to resolve adverse effects to historic properties using the Section 106 process. General mitigation measures are provided in Appendix A and would be incorporated into a Memorandum of Agreement (MoA) to resolve Adverse Effects to historic properties assuming such impacts are adverse or significant and unavoidable. By completing the Section 106 process you effectively satisfy all the steps and considerations for impacts to cultural resources for CEQA.

The TRRP is guided by a Programmatic Agreement (PA) executed between Reclamation and the SHPO in 2000 (USFWS et al. 2000b). The PA outlines an alternative Section 106 process as allowed for in the Section 106 regulations at §800.16. The PA outlines a program APE which includes the 100 year flood plain of the Trinity River, access roads, staging, and all TRRP project related activities. Specific actions can result in more refined action specific project areas. Additionally, the PA provides for a streamlined review process on actions that have minimal to no impact on Historic Properties. Reclamation is required to report annually to the SHPO on TRRP actions and undertakings. If an action or undertaking is determined to have an adverse effect to historic properties Reclamation must seek to resolve that adverse effect through avoidance, project modification, or mitigation through an MOA. By resolving effects to Historic Properties, impacts to cultural resources are effectively mitigated to less than significant under CEQA and no impact under NEPA.

### **3.10.1 Affected Environment/Environmental Setting**

Trinity County was primarily shaped by three economic pursuits: ranching, logging, and mining. Early settlers during the 1840s farmed, logged, and milled lumber (Colby 1982; Cox 1958; Medin and Allen 1998). This lifestyle was disrupted by the discovery of gold in Trinity County at Reading Creek in 1848. Mining on the Trinity River was a significant industrial operation that contributed to the economic development of Trinity County beginning in the 1890s and continuing to the 1960s (Bradley 1941; Jones 1981; Medin and Allen 2007). Boom towns quickly sprang up throughout the

basin, with Weaverville and Trinity Center being among the largest, and nearly every flat and bar along the river was subsequently prospected.

Evidence of mining is easily identified by even the casual observer. Large dredge tailings created by multiple gold dredge operations line the banks of the Trinity River depicting various stages of dredge development and implementation. Remnant placer mine operations also mark the hillsides along with their supporting infrastructure such as roads and ditches that brought people, equipment, and water to the gold operations. The largest of the placer mining operations was Union Hill Mine supported by the Union Hill Ditch. Mining activities are dominant through the TRRP APE as well as the project areas at Upper Junction City and Lower Steiner Flat. Although it is known that Native Americans utilized the lands in and immediately adjacent the Trinity River, evidence of this use is not easily located within the TRRP APE. Archaeological sites containing Native American type artifacts are rare within the TRRP APE and have not been identified during the course of implementing Phase I actions associated with the TRRP.

#### **3.10.1.1 Upper Junction City**

Similar to much of the TRRP APE, the Upper Junction City project location has evidence of mining along the Trinity River. As the project area is located adjacent the Trinity River, regular flooding appears to have taken its toll on much of the landscape. This combined with secondary use of the mining remains such as gravel extraction have left the Upper Junction City project area little to nothing of cultural significance. The area currently depicts a relatively leveled, highly disturbed landscape.

#### **3.10.1.2 Lower Steiner Flat**

Lower Steiner Flat is currently used by the BLM as a recreation area and campground. Rafts and boats regularly use the area to launch from. In the boat launch area, there is limited evidence of historic land use. Mining activities in this area appear to have been modified by river flooding but a few visible remnants are still present such as a rock-lined drainage, cabin pad of an old residence, and some small dredge activities. Down river at the BLM campsite, river flooding has taken its toll but to a lesser extent than the resources up-river at the boat launch area. Large tailings piles and mining equipment are visible within the campground. On the left side of the river at Lower Steiner Flat, fruit trees of various varieties are present and are estimated to be around 100 years old or older. In that same area is evidence of residential use estimated to have occurred between the late 19<sup>th</sup> century through the 1970s. Because of a terrace on the left side of the Trinity River the cultural resources on the left side of the river appear to be less impacted by river flooding than those on the right side of the river. Although actions were once considered on the left side of the river at Lower Steiner Flat, these ideas have since been abandoned limiting proposed activities on the right side of the river.

### **3.10.2 Environmental Consequences/Impacts and Mitigation Measures**

#### **3.10.2.1 Impacts and Mitigation Measures**

Table 15 summarizes the potential cultural resource impacts resulting from construction of the project.

<b>Table 15. Summary of Potential Cultural Resources Impacts for the No-Project and Proposed Project Alternatives</b>		
<b>No-Project Alternative</b>	<b>Proposed Project</b>	<b>Proposed Project With Mitigation</b>
Impact 3.10-1: Implementation of the project could cause a substantial adverse change in the significance of a known cultural resource.		
No impact	Less than significant	Not applicable <sup>1</sup>
Impact 3.10-2: Implementation of the project could potentially result in disturbance of undiscovered prehistoric or historic resources.		
No impact	Potentially significant	Less than significant

<sup>1</sup> Because this potential impact is less than significant, no mitigation is required.

Impact 3.10-1: Implementation of the proposed project could cause a substantial adverse change in the significance of a known cultural resource.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, there would be no effects on cultural resources because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Implementation of the proposed project will effectively avoid, minimize or mitigate impacts to cultural resources as described in the PA. By following the stipulations of the PA, there will be no impacts to cultural resources and all actions under CEQA and NHPA will be fulfilled. Reclamation commits to fulfilling the Stipulations of the PA prior to implementation of the Proposed Project.

Impact 3.10-2: Implementation of the proposed project could potentially result in disturbance of undiscovered prehistoric or historic resources.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, there would be no effects on cultural resources because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

TRRP rehabilitation activities have the potential to affect unknown cultural resources that may be present at the Proposed Project sites. In the event that any cultural resources or human remains are encountered during project implementation, all work in the area of the find would halt and Reclamation's Regional Archeologist would be immediately notified. Reclamation would follow the stipulations of the PA and appropriate laws and regulations for compliance with the NHPA and other cultural resources statutes. If the discovery is determined to be a historic property that would be adversely affected by the rehabilitation activities, Reclamation would resolve the adverse affect by preparing a Historic Property Treatment Plan in accordance with Section III (d) of the PA. If human remains are discovered and identified as Native American, they would be treated according to provisions set forth in Section IV of the PA as well as the Native American Graves Protection and Repatriation Act. Any such impact related to the Proposed Project would be potentially significant.

#### **MITIGATION MEASURES**

Implementation of the Proposed Project could potentially result in disturbance of undiscovered prehistoric or historic resources. Therefore, mitigation measures 4.10-2a and 4.10-2b described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed

Project. Implementation of the specified mitigation measures would reduce the impacts to less than significant.

### **3.11 Air Quality**

This section evaluates the air quality impacts associated with implementation of the Proposed Project. Air emissions from project activities are measured against federal and state standards. Air quality in the vicinity of the Proposed Project sites is discussed in detail in the Trinity River Master EIR (Section 4.11.1). The information below is summarized from that document.

#### **3.11.1 Affected Environment/Environmental Setting**

##### **CLIMATE AND TOPOGRAPHY**

Trinity County has a climate characterized by hot, dry summers and cold, moderately wet winters (USDA 1998). Most precipitation in the county results from major storms originating in the Pacific Ocean; however, short thunderstorms resulting from localized climate conditions occur in the summer months. The higher mountain ridges receive precipitation as snow and hold most of it until late spring. Precipitation in the lower elevations is dominantly rainfall, with occasional snow in the winter (North Coast Unified Air Quality Management District 1995). Trinity County has an average summer high temperature of 93.9°F and winter low of 27.3°F.

##### **AIR QUALITY**

The Trinity River Master EIR summarizes federal, state and local air quality requirements applicable to the project area. The 1977 federal Clean Air Act (CAA) requires the EPA to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. Trinity County is part of the North Coast Air Basin (NCAB), and is under the jurisdiction of the North Coast Unified Air Quality Management District (NCUAQMD). Similar to federal requirements, the 1988 California Clean Air Act (CCAA) outlines a program to attain the California Ambient Air Quality Standards (CAAQS). The county is currently in attainment with all federal air quality standards and most state air quality standards; however, the county is in non-attainment for the state particulate matter standards for particulate matter less than 10 microns in diameter (PM<sub>10</sub>). The California Air Resources Board (CARB), California's state air quality management agency, regulates mobile source emissions and oversees the activities of the NCUAQMD. The NCAB is comprised of five counties in northwest California: Del Norte, Humboldt, Trinity, Mendocino, and a portion of Sonoma County. NCUAQMD is responsible for monitoring and reporting air quality for Trinity County as well as two others.

Trinity County's air quality is generally good. The low population density, limited number of industrial and agricultural operations and minimal traffic congestion problems contribute to the good air quality. Ambient air quality data is available from the Weaverville air monitoring station, which is located approximately 8 miles from the Upper Junction City and Lower Junction City Rehabilitation Sites and 6 miles from the Lower Steiner Flat Rehabilitation Site. Air quality measured at the Weaverville station may not be a precise representation of ambient air quality in the immediate vicinities of the sites but it does provide a good indication of air quality in the general vicinity.

##### **CLIMATE CHANGE AND GREENHOUSE GASES**

Climate change refers to a significant change in measures of climate, such as average temperatures, precipitation, and wind patterns, over time. Significant changes in global climate patterns have

recently been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, attributed to the accumulation of greenhouse gas (GHG) emissions in the atmosphere.

As of August 2007, CEQA lead agencies are required by law to analyze the potential of a project to produce GHG emissions, which consist primarily of carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), and methane (CH<sub>4</sub>) (Public Resources Code Section 21083.05). The Governor's Office of Planning and Research released a Technical Advisory in June 2008 (California Office of Planning and Research 2008) that provides guidance for addressing CEQA GHG environmental impacts. In particular, "Lead agencies should make a good faith effort, based on available information, to calculate, model, or estimate the amount of CO<sub>2</sub> and other GHG emissions associated with vehicular traffic, energy consumption, water usage and construction activities" (California Office of Planning and Research 2008).

#### **SENSITIVE RECEPTORS**

A sensitive receptor is a location where human populations, particularly children, seniors, and sick individuals, are present and where there is a reasonable expectation of continuous human exposure to pollutants. The projects are not located near a hospital or senior housing. However, the Upper Junction City and Lower Junction City sites are near the elementary school in Junction City and the Lower Steiner Flat site is near the elementary school in Douglas City. Additionally the Upper Junction City site has residential areas within and adjacent to the site boundaries and all three sites provide recreation opportunities.

### **3.11.2 Environmental Consequences/Impacts and Mitigation Measures**

#### **3.11.2.1 Methodology**

Data for the impacts analysis were taken from the following reports on local and regional air quality: Particulate Matter Attainment Plan (North Coast Unified Air Quality Management District 1995), California Air quality data statistics (California Air Resources Board 2008), North Coast Rules and Regulations (North Coast Unified Air Quality Management District 2005), and the Trinity County General Plan (Trinity County 2003). The air quality analysis is qualitative, and was conducted by assessing anticipated construction-related impacts of the projects and comparing them to existing and anticipated future air quality conditions.

#### **3.11.2.2 Significance Criteria**

According to Appendix G of the CEQA Guidelines, a project would normally have an adverse impact on air quality if it would:

- Violate any ambient air quality standard;
- Contribute substantially to an existing or projected air quality violation;
- Conflict with or obstruct implementation of any applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant (e.g., PM<sub>10</sub>) for which the region is in non-attainment under an applicable state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations;
- Result in substantial air emissions or deterioration of air quality;
- Create objectionable odors;

- Alter air movement, moisture, or temperature, or result in any change in climate, either locally or regionally;
- Produce toxic air contaminant emissions that exceed the air pollution control district's threshold level for health risk; or
- Result in a substantial increase or cumulatively considerable net increase in GHG emissions (e.g., CO<sub>2</sub>).

Since the first two criteria include violation of either federal or state air quality standards, these criteria would also be used to determine significance for NEPA compliance. The NCUAQMD has not formally adopted a CEQA threshold of significance for criteria pollutants such as CO, NO<sub>x</sub>, PM<sub>10</sub>, and SO<sub>2</sub>, but does use the significant emission rates listed in Table 4.11-3 of the Trinity River Master EIR as a baseline when evaluating a project's potential impacts to air quality.

### 3.11.2.3 Impacts and Mitigation Measures

Table 16 summarizes the potential air quality impacts that would result from the No-Project alternative and the Proposed Project.

<b>Table 16. Summary of Potential Air Quality Impacts for the No-Project and Proposed Project Alternatives</b>		
<b>No-Project Alternative</b>	<b>Proposed Project</b>	<b>Proposed Project With Mitigation</b>
3.11-1. Construction activities associated with the project could result in an increase in fugitive dust and associated particulate matter (PM <sub>10</sub> and PM <sub>2.5</sub> ) levels.		
No impact	Significant	Less than significant
3.11-2. Construction activities associated with the project could result in an increase in construction vehicle exhaust emissions.		
No impact	Significant	Less than significant
3.11-3. Construction activities and removal of vegetation associated with the project could result in vegetative materials that managers may decide to burn.		
No impact	Significant	Less than significant
3.11-4. Construction and transportation activities associated with the project could result in an increase of greenhouse gas emissions and effects on climate change.		
No impact	Less than significant	Not applicable <sup>1</sup>
3.11-5. Construction activities would generate short-term and localized fugitive dust, gas, and diesel emissions, and smoke that could affect adjacent residences and schools.		
No impact	Significant	Less than significant

<sup>1</sup> Because this potential impact is less than significant, no mitigation is required.

Impact 3.11-1: Construction activities associated with the proposed project could result in an increase in fugitive dust and associated particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) levels.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, there would be no construction-related increase in fugitive dust and associated particulate matter levels because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Rehabilitation activities associated with the Proposed Project would require excavation, grading, disposal of earthen materials, and the use of heavy equipment and travel on unpaved roads, which would temporarily contribute fugitive dust in the project area. Fugitive dust emissions would also

result from activities associated with vegetation removal and gravel injection. As discussed previously, these sources of fugitive dust are associated with PM<sub>10</sub>, a criteria pollutant, for which the air basin is in non-attainment.

High levels of PM<sub>10</sub> in Trinity County generally coincide with regional wildland fire events during the dry summer months and with periods of cool, wet weather when localized woodstove use and brush burning activities contribute particulate matter to the air. Fugitive dust resulting from project activities would occur during the dry summer and early fall months, when PM<sub>10</sub> levels may be elevated by wood stove use, brush burning, or wildland fires.

As described in Appendix A, the project includes NCUAQMD-required measures to minimize fugitive dust in and adjacent to the rehabilitation sites. Once rehabilitation activities cease at the sites, the resulting impact on air quality would also cease. While the project design minimizes fugitive dust, project generated fugitive dust would be considered a significant impact because the air basin is in non-attainment status for particulate matter. The impact would be temporary (during rehabilitation). Because activities at the Lower Steiner Flat site would occur in two phases, the potential increase in fugitive dust could occur in 2012 and when Phase B is implemented.

#### **MITIGATION MEASURES**

Construction activities associated with the project could result in an increase in fugitive dust and associated particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) levels. Therefore, mitigation measure 4.11-1a described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of the specified mitigation measure would reduce the impacts to less than significant.

Impact 3.11-2: Construction activities associated with the proposed project could result in an increase in construction vehicle exhaust emissions.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no increase in construction vehicle exhaust emissions would occur because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Construction associated with the Proposed Project would require the use of equipment that would temporarily contribute to air pollution in the Trinity River Basin. At the Lower Steiner Flat site, impacts could occur during Phase A implementation in 2012 and during implementation of Phase B. Exhaust emissions from heavy equipment during construction could contribute to air pollution. Project construction activities would generate emissions from diesel- and gasoline-powered equipment and vehicles. Diesel particulate is an identified Hazardous Air Pollutant (HAP) and Toxic Air Contaminant (TAC), emissions of which should be minimized. In this regard, construction activities would require the contractor to comply with NCUAQMD Rule 104 (3.0) Particulate Matter or use portable internal combustion engines registered and certified under the state portable equipment regulation. Because diesel particulate matter is both a HAP and a TAC, and because these pollutants would be emitted as a result of project implementation, the Proposed Project would have a significant impact on air quality.

#### **MITIGATION MEASURES**

Construction activities associated with the Proposed Project could result in an increase in construction vehicle exhaust emissions. Therefore, mitigation measure 4.11-2a described in

Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of the specified mitigation measure would reduce the impacts to less than significant.

**Impact 3.11-3:** Construction activities and removal of vegetation associated with the proposed project could result in vegetative waste materials that managers may decide to burn.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, there would be no vegetative waste materials that would need to be burned because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Implementation of the Proposed Project would include vegetation removal resulting in vegetative material that would be buried, piled to create wildlife habitat, chipped, or burned. Though vegetative materials are most frequently chipped and added back to the floodplain or upland area to enhance growing conditions, occasionally burning of vegetation (e.g., weedy materials) is completed. Piling and burning is a quick and economical way to eliminate flammable biomass and reduce concentrations of wildland fuels. Brush piles set aside for burning would be left intact until site construction is finished, and subsequently burned under the direction of Reclamation, consistent with BLM and Cal Fire requirements. Burning vegetation in the fall/winter period (November-April) would eliminate effects to nesting birds. In the event that piles are burned, smoke would temporarily contribute to air pollution in the Trinity River Basin. Burning vegetation would contribute particulate matter to the air, a criteria pollutant for which the basin is in non-attainment. Therefore, the impact would be significant.

#### **MITIGATION MEASURES**

Construction activities and removal of vegetation associated with the project areas could result in vegetative waste materials that managers may decide to burn. Therefore, mitigation measures 4.11-3a, 4.11-3b, and 4.11-3c described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of the specified mitigation measures would reduce the impacts to less than significant.

**Impact 3.11-4:** Construction and transportation activities associated with the proposed project could result in an increase of greenhouse gas emissions and effects on climate change.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Transportation and construction activity associated with project implementation would generate GHG emissions from diesel- and gasoline-powered vehicles and equipment. Burning vegetation would also emit CO<sub>2</sub>, which is a GHG. Several measures are identified in Appendix A that are intended to reduce the impacts relative to climate and GHGs. These measures are incorporated into the Proposed Project. Additionally, the following measures would be used to enhance the awareness of global warming in conjunction with the Proposed Project:

- Provide project contractors with educational material about fuel efficiency and incentives;
- Promote incentives for contractors to initiate ride-sharing programs;
- Promote the use of energy efficient and alternative fuel construction equipment and transportation fleets through contract incentives;
- Require contractors to provide recycling bins for on-site waste materials;
- Provide incentives for contractors to use re-usable water containers rather than plastic bottled water;
- Provide incentives for contractors to hire locally;
- Require re-useable batteries for equipment that can use them.

In order to determine the significance of the impact of a rehabilitation project, a “carbon foot-print” was estimated in the Trinity River Master EIR based on a project’s potential generation of GHGs (primarily CO<sub>2</sub>) from project activities at the remaining Phase 1 sites. Project activities that would offset potential impacts were weighed into the equation. The analysis in the Trinity River Master EIR determined that rehabilitation at all of the remaining Phase 1 sites would produce approximately 3 metric tons of CO<sub>2</sub> per day over the life of the project. Total GHG emissions resulting from the proposed activities would be approximately 2,050 metric tons of CO<sub>2</sub>.<sup>9</sup> Vegetation replanting and natural re-seeding within the existing riparian area would offset the total project GHG emissions by approximately 20 metric tons of CO<sub>2</sub> over a five-year period. Additionally, project activities may result in opportunities to increase the amount of riparian and upland vegetation.

Based on those calculations, the Trinity River Master EIR determined that rehabilitation at the remaining Phase 1 sites would not generate significant increases in GHGs or an ongoing increase in the demand for off-site energy production because there would be no new facilities constructed. While a project’s GHG emissions associated with the use of heavy equipment would be measurable over the course of the project, GHG emissions and any effects on global climate change would not be cumulatively significant considering the amount of GHG emissions generated by the rehabilitation and the current local air quality conditions. Overall, the impacts of rehabilitation activities would be less than significant with respect to GHG. As a result, the Proposed Project would result in impacts that would be less than significant because it represents a much smaller action than that analyzed in the Trinity River Master EIR.

**Impact 3.11-5:** Construction activities would generate short-term and localized fugitive dust, gas, and diesel emissions, and smoke that could affect adjacent residences and schools.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no construction or transportation activities would occur because the project would not be implemented. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Construction activity associated with the Proposed Project would generate fugitive dust, gas, and diesel emissions and the project could generate smoke from vegetation burn piles; all of which

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<sup>9</sup> The mobile combustion CO<sub>2</sub> Emissions Calculation Tool was used to calculate GHG emissions for combustible fuel (Greenhouse Gas Protocol Initiative 2005), and the Construction Carbon Calculator was used to calculate GHG emissions for vegetation loss (BuildCarbonNeutral 2007). The calculation is based on 23 days of construction per site as estimated for the Remaining Phase 1 sites and includes diesel fuel combustion and loss of vegetation.

could expose a number of adjacent residents and the nearby elementary school to air pollutants. Schools and residences are considered sensitive receptors. Therefore, this would be a significant impact.

#### **MITIGATION MEASURES**

Construction activities would generate short-term and localized fugitive dust, gas, and diesel emissions, and smoke that could affect adjacent residences and schools. Therefore, mitigation measures 4.11-5a, 4.11-5b, 4.11-5c, and 4.11-5d described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of the specified mitigation measures would reduce the impacts to less than significant.

### **3.12 Aesthetics**

This section describes the aesthetic values and visual resources that are known to occur within the Proposed Project site boundaries and evaluates the effect that the Proposed Project could have on these values and resources. More details about this resource are described in the Trinity River Master EIR (Section 4.12).

#### **3.12.1 Affected Environment/Environmental Setting**

##### **3.12.1.1 Visual Environment**

The visual environment, or character, is a function of both the natural and artificial landscape features that make up a view. Geologic, hydrologic, botanical, wildlife, recreational, and urban features such as roads, homes, and earthworks directly influence the visual character of an area. The perception of the visual character of an area can vary significantly by season and even by hour as light, shadow, weather, and the elements that compose the view change. Form, line, color, and texture are the basic components used to describe visual character and quality for most visual assessments (Federal Highway Administration 1983). The dominance of each of these components on the landscape serves to form the viewer's impression of the area. A viewer's impression directly corresponds to the aesthetic value of the landscape. The aesthetic value of an area is a measure of its visual character and scenic quality combined with the viewer response.

The visual character of the Trinity River as a whole is typified by the river channel, bordered by bands of riparian vegetation interspersed between homes, businesses, and, occasionally, deposits of dredge tailings. The riparian vegetation transitions to upland vegetation as the viewer moves away from the river. The location and boundaries of the Proposed Project sites are illustrated in Figures 2 and 3. Adjacent roads offer varying degrees of views of the river and rehabilitation sites. The Lower Steiner Flat Rehabilitation Site is partially visible from the Steiner Flat Road; the Upper Junction City Rehabilitation Site is visible from SR-299 and areas along Dutch Creek Road, and the U-3 spoil area at the Lower Junction City Rehabilitation Site is visible from the bridge on Dutch Creek Road.

##### **VIEWER GROUPS**

The Proposed Project sites are subject to the perceptions of the following three distinct viewer groups: motorists, residents, and recreationists. Motorists are those persons who would view the sites from a moving vehicle and may be drivers or passengers. Views of the river corridor from the roadway at the Proposed Project sites are somewhat limited and of short-duration for motorists. Residents are people whose homes and/or property are in close proximity to, and have a view of,

one of the Proposed Project sites or a portion of a site. The individual sensitivity of residents to aesthetics and changes within a viewshed is highly variable. Recreationists are members of the community or the general public who use the recreational resources available within or adjacent to a site. The Trinity River provides a myriad of recreational opportunities that are discussed in Section 3.8 (Recreation). Like residents, recreational users are highly sensitive to the visual character of the river corridor since most are drawn to the area by an appreciation of its scenic nature.

#### **LIGHT AND GLARE**

Because of the rural nature of the Trinity River corridor, the primary sources of artificial light are limited to vehicles passing through the area on state, local and private roads; concentrations of commercial/residential buildings; and, to a lesser degree, recreational features and facilities. Glare may occur during the daylight hours as the sun is reflected off the river or light-colored alluvium associated with the Trinity River floodplain.

#### **VISUAL ASSESSMENT UNITS AND KEY OBSERVATION POINTS**

The Federal Highway Administration (1983) defines a viewshed as all of the surface area visible from a particular location (e.g., a highway pull-out) or sequence of locations (e.g., a highway or trail). Viewsheds are referred to as Visual Assessment Units (VAUs) throughout this section of the document. VAUs are established to represent views of visually sensitive resources observed from various locations surrounding homes, public access areas, or roads in the project vicinity. VAUs provide a framework for comparing the visual effects of the Proposed Project.

VAUs for the Proposed Project sites were based on visibility from surrounding homes or public access areas along SR-299, Dutch Creek Road, and Steiner Flat Road, with one VAU corresponding to the site boundary being identified for each site. Key observation points<sup>10</sup> (KOPs) are identified for the VAUs, along commonly traveled routes or other likely observation points from which a representative group (i.e., residents, recreationists, or motorists) could view one of the rehabilitation sites. Three discrete KOPs (some including multiple aspects) were established within the VAU for the Lower Steiner Flat Rehabilitation Site (Figure 20); four KOPs were established within the VAU for the Upper Junction City Rehabilitation Site (Figure 21); and one KOP was established within the VAU for the Lower Junction City Rehabilitation Site (Figure 21). Table 17 provides a brief description of the KOPs and representative photographs of the sites are included as Tables 18, 19, and 20.

Views of the Proposed Project sites are visible from some locations when seen from SR-299, Dutch Creek Road, and Steiner Flat Road. Although the river channel is somewhat obscured from the view of motorists by vegetation and trees some portions of the sites and construction areas are visible from these roads. Because these roads are elevated above the river, motorists are afforded brief views of the sites through openings in the roadside vegetation. Portions of upland activity areas may be visible from the roads, but in-channel work may not be apparent from these locations. Views looking upstream and downstream into the sites may be limited by vegetation and topography.

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<sup>10</sup> Points from which the project boundary or portions thereof are visible from sensitive receptor areas, such as major travel routes and/or surrounding homes.

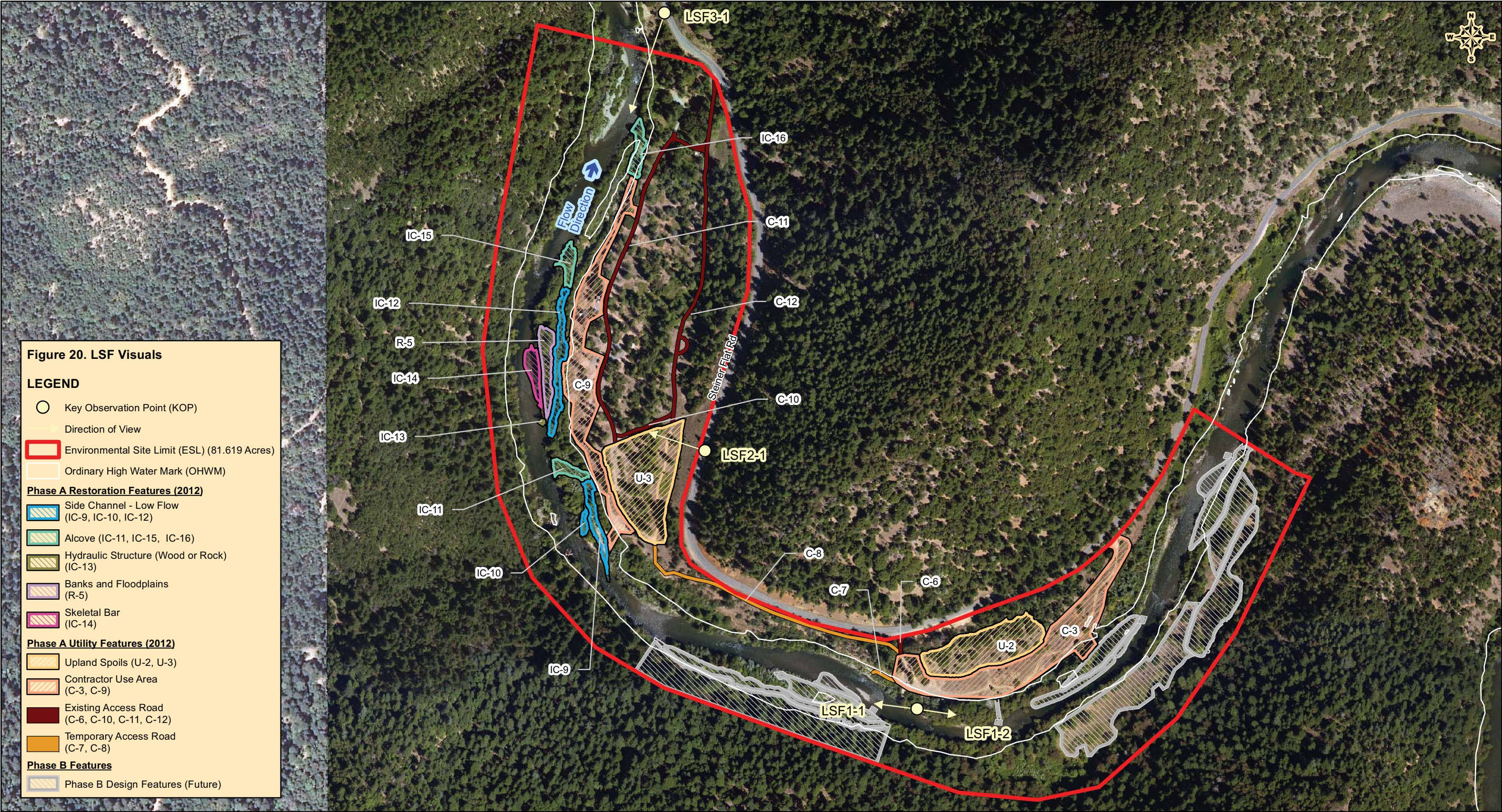


Figure 20. LSF Visuals

LEGEND

- Key Observation Point (KOP)
- Direction of View
- Environmental Site Limit (ESL) (81.619 Acres)
- Ordinary High Water Mark (OHWM)
- Phase A Restoration Features (2012)**
  - Side Channel - Low Flow (IC-9, IC-10, IC-12)
  - Alcove (IC-11, IC-15, IC-16)
  - Hydraulic Structure (Wood or Rock) (IC-13)
  - Banks and Floodplains (R-5)
  - Skeletal Bar (IC-14)
- Phase A Utility Features (2012)**
  - Upland Spoils (U-2, U-3)
  - Contractor Use Area (C-3, C-9)
  - Existing Access Road (C-6, C-10, C-11, C-12)
  - Temporary Access Road (C-7, C-8)
- Phase B Features**
  - Phase B Design Features (Future)

California State Plane Zone 1, NAD83 Feet

Imagery collected by Watershed Sciences Inc., on 8-25-2011

Figure 21. UJC Visuals

LEGEND

- Key Observation Point (KOP)
- Direction of View
- Environmental Site Limit (58.10 acres)
- Ordinary High Water Mark (OHWM)
- Restoration Features**
  - Forced Meander (IC-5)
  - Surface Water Inlet (R-12)
  - Skeletal Bar Complex (IC-4)
  - Water Infiltration Area (R-16)
  - Constructed Island Complex (IC-1)
  - Revegetation Area (R-13, R-15)
  - Split Flow (R-4)
  - Side Channel - Low Flow (R-5, R-11)
  - Alcove (R-6)
  - Hydraulic Structure (Wood or Rock) (IC-3, R-14)
  - Banks and Floodplains (R-7, R-8, R-9, R-10)
  - Rearing Pond (W-1, W-4, W-5, W-6)
- Utility**
  - Upland Spoils (U-1, U-3)
  - Contractor Use Area (C-10, C-11, C-12, U-2)
  - Existing Access Road (C-3, C-4, C-5, C-6, C-8, C-14)
  - Temporary Access Road (C-1, C-2, C-9, C-16)
  - New Permanent Access Road (C-7, C-17)

California State Plane Zone 1, NAD83 Feet

Imagery collected by Watershed Sciences Inc., on 8-25-2011

There are no residences adjacent to the Lower Steiner Flat Rehabilitation Site. At the Upper Junction City Rehabilitation Site there are a few homes located on river left along Dutch Creek Road at the downstream end of the site from which the project area may be visible. These locations are situated above the project area but topography and vegetation provide some screening. While there is more recreation use at the Lower Steiner Flat site than at Upper Junction City (see Section 3.8, Recreation), recreationists at each of the sites would have views of the project activities.

**Table 17. Key Observation Points for the Proposed Project**

KOP	Description of Key Observation Points
LSF1-1	View from river right from boat launch area, looking downstream.
LSF1-2	View from river right from boat launch area, looking upstream.
LSF2-1	View from river right from Steiner Flat Road, looking west into the project area.
LSF3-1	View from river right from Steiner Flat Road, looking upstream into the project area.
UJC1-1	View from river right from SR-299, looking downstream into the river and project area.
UJC1-2	View from river right from SR-299, looking south-southwest across the river.
UJC2-1	View from river right at the developed area along Dutch Creek Road looking downstream.
UJC2-2	View from river right at the developed area along Dutch Creek Road looking upstream.
UJC3-1	View from river right from the bridge on Dutch Creek Road, looking upstream into the project area.
UJC4-1	View from river left from a residential area, looking northeast toward the river.
UJC4-2	View from river left from a residential area, looking upstream into the project area.
LJC1-1	View from the bridge on Dutch Creek Road, looking downstream into the project area toward the U-3 spoil area.

#### **WILD AND SCENIC RIVERS**

The sites are located within the corridor of the Trinity River designated under the federal and state WSRAs. A review of the consistency of the Proposed Project with federal and state Wild and Scenic River designations is presented in Appendix A of the Trinity River Master EIR.

**Table 18. Photographs of Views from Various Key Observation Points for the Lower Steiner Flat Rehabilitation Site**



Photo 1. View from boat launch area (LSF1).



Photo 2. View from boat launch looking down river (LSF1-1).



Photo 3. View looking up river from boat launch area (LSF1-2).



Photo 4. Typical view of vegetation within the rehabilitation site blocking views of the river from Steiner Flat Road (LSF2-1).

**Table 19. Photographs of Views from Various Key Observation Points for the Upper Junction City Rehabilitation Site**



Photo 1. View from SR-299 (UJC1-1 and UJC1-2).



Photo 2. View from river right near Dutch Creek Road looking upstream.



Photo 3. View from residential area, looking toward the river (UJC4-1).



Photo 4. View from residential area, looking upriver into the project area (UJC4-2).

**Table 20. Photographs of Views from the Key Observation Point for the Lower Junction City Rehabilitation Site**



Photo 1. View from Dutch Creek Road bridge (LJC1-1).



Photo 2. View of U-3 spoil area.

### **3.12.2 Environmental Consequences/Impacts and Mitigation Measures**

#### **3.12.2.1 Methodology**

Analysis of potential impacts to aesthetic resources relative to the Proposed Project is based on the significance criteria described in Appendix G of the CEQA Guidelines (Association of Environmental Professionals 2008). The Regional Water Board, acting as the CEQA lead agency, has used these criteria to develop significance thresholds. Significance thresholds are used to evaluate the Proposed Project's potential impact on the visual character of the Proposed Project sites with an emphasis on VAUs that are selected to characterize the aesthetic values and visual resources. This section provides a general discussion of the type and magnitude of impacts that could occur as a result of the project. The assessment is qualitative, with the potential impacts of activities at the Proposed Project sites evaluated in the context of the viewshed of the Trinity River corridor. A review of the consistency of the Proposed Project with federal and state Wild and Scenic River designations is presented in Appendix A of the Trinity River Master EIR.

#### **3.12.2.2 Significance Criteria**

The project would have a significant impact if it:

- Obstructs a scenic view from public viewing areas;
- Has a substantial adverse effect on a scenic vista;
- Substantially damages scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrades the existing visual character or quality of the rehabilitation sites and their surroundings;
- Introduces physical features that are substantially out of character with adjacent residential areas;
- Alters the sites so that the scale or degree of change appears as a substantial, obvious, and disharmonious modification of the overall scenes (to the extent that they clearly dominate the view);

- Creates substantial daytime glare associated with new construction;
- Disrupts adjacent residential areas because of new night-time lighting;
- Creates a new source of substantial light or glare that would adversely affect day or nighttime views in the sites;
- Is inconsistent with the policies of the Trinity County and local general plans relating to aesthetics; or
- Is inconsistent with the goals and objectives of either the federal or state WSRA with regards to the Trinity River.

### 3.12.2.3 Impacts and Mitigation Measures

Table 21 summarizes the potential aesthetic impacts resulting from implementation of the No-Project alternative and Proposed Project.

<b>Table 21. Summary of Potential Aesthetic Impacts for the No-Project and Proposed Project Alternatives</b>		
<b>No-Project Alternative</b>	<b>Proposed Project</b>	<b>Proposed Project with Mitigation</b>
Impact 3.12-1. Implementation of the project could result in the degradation and/or obstruction of a scenic view from key observation areas.		
No impact	Significant	Less than significant
Impact 3.12-2. Implementation of the project could substantially change the character of, or be disharmonious with, existing land uses and aesthetic features.		
No impact	Less than Significant	Not applicable <sup>1</sup>
Impact 3.12-3. The project may be inconsistent with federal and state WSRA or Scenic Byway requirements.		
No impact	Less than significant	Not applicable <sup>1</sup>
Impact 3.12-4. The project could generate increased daytime glare and/or nighttime lighting.		
No impact	Less than significant	Not applicable <sup>1</sup>

<sup>1</sup> Because this potential impact is less than significant, no mitigation is required.

Impact 3.12-1: Implementation of the proposed project could result in the degradation and/or obstruction of a scenic view from key observation areas.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, the degradation and/or obstruction of a scenic view from key observation areas would not occur as a result of construction activities because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Potential impacts of project activities would include changes brought about by the removal of vegetation, construction of inundated surfaces, new access roads, and the creation of staging and gravel processing areas. These various activities are intended to restore the form and function of an alluvial river, thereby enhancing the overall aesthetic values and visual resources associated with the Trinity River and the surrounding landscape. While the adverse impacts are expected to be temporary in nature and the long-term outcome should improve the visual diversity of the corridor, the short-term impacts would persist for some period. The impacts at the Lower Steiner Flat Rehabilitation Site would be prolonged because the activities at that site would occur in two phases.

Impacts to aesthetics at the Lower Steiner Flat Rehabilitation Site would be potentially significant, particularly when viewed from KOPs LSF1-1 and LSF1-2. Proposed activities in the channel would have a significant impact on the visual environment. However, because Proposed Project activities are intended to restore the form and function of an alluvial river, potentially adverse visual impacts occurring during construction would be temporary, lasting only until natural processes take over.

Recreationists looking downstream from the boat launch area (KOP LSF1-1; Photo 2 in Table 18) would not see Phase A rehabilitation activities because of the bend in the river which would screen the activity areas further downstream from view. Recreationists leaving the boat launch area and floating down the river would have views of the Phase A activities in 2012 however. Phase B activities that would be visible from LSF1-1 include X-2, X-3, R-4, IC-5, IC-6, and IC-8. In addition, activity areas U-2 – the upland spoil area – and C-3 – contractor use area – would be visible for those recreating in the boat launch area and may detract from the aesthetic quality of the area until the disturbed area is revegetated. These would be visible in 2012 during Phase A implementation and during Phase B.

Looking upriver from the boat launch area (LSF1-2) recreationists may be able to see portions of Activity Areas R-2, R-3, IC-3, and IC-4 during Phase B implementation but they would be largely screened by vegetation and the bend in the river upstream of the launch area (see Photo 3 in Table 18). Effects of the construction activities would be similar to those described above for KOP LSF1-1.

Some of the proposed Phase A activities could be visible from LSF2-1 depending on the direction the motorist is facing. The elevation of the road allows for views of the floodplain in this area but most of the activity would be obstructed by vegetation. Traveling downstream on Steiner Flat Road a motorist could see portions of Activity Areas U-3 and C-10, as well as possibly Activity Areas C-9, IC-10, IC-11, IC-12, IC-13, IC-14, and R-5. However, vehicles would only have brief glimpses of the activity areas due to dense riparian vegetation in the area (see Photo 4 in Table 18) and traveling speeds. Traveling upstream on Steiner Flat Road in the LSF2-1 location a motorist could see portions of Activity Areas C-9, U-3, IC-9, IC-10, and IC-11. The Phase B activities would not be visible from this location.

Views from LSF3-1 of construction activities proposed at the Lower Steiner Flat Rehabilitation Site would be buffered by vegetation, topography, and distance. Motorists traveling upriver along Steiner Flat Road would have a brief glimpse of the river corridor from this location. Parts of the Activity Areas C-9, IC-12, IC-14, IC-15, IC-16, R-5, and U-3 could be visible by motorists during Phase A implementation. The Phase B activities would not be visible from this location.

Motorists traveling along SR-299 would have views of the Upper Junction City Rehabilitation Site from KOPs UJC1-1 and UJC1-2. Although there is vegetation along the roadway there are openings where the project area would be briefly visible (see Photo 1 in Table 19). From KOP UJC1-2, R-5, R-7, and R-15 would be visible in the foreground and R-6, R-8, C-10, C-11, and U-2 would possibly be visible in the background. From KOP UJC1-1, Activity Areas IC-3, R-9, R-10, R-13, and W-4 would be visible to motorists passing by the site on SR-299.

From UJC2-1 and UJC2-2 views of most of the site would be blocked by vegetation and topography. The structures at this location are set back some distance from the edge of the hill, closer to the road, such that the project activities would not be visible due to vegetation, topography, and distance. Individuals walking out to the edge of the hill overlooking the river would have views of

the project site. From this vantage point individuals would be looking down into activity areas IC-3, R-9, R-10, R-11, R-13, W-4, and W-5 and they could also look across the river to C-11, R-6, R-8, and R-15 as well as other areas.

Motorists traveling over the bridge on Dutch Creek Road at UJC3-1 would be able to view the project site. The views from this location would be brief as seen by motorists traveling along this route and would be buffered to some extent by topography, vegetation, and distance limiting the extent of views of the site. The elevation of the road allows for views of the floodplain on river left but most direct views of the rehabilitation site would be obscured by vegetation and topography. Activity Areas C-10, IC-4, and U-1 would most likely be visible and work at IC-5, R-9, R-10, and R-13 may also be visible on river right.

A few homes are located along Dutch Creek Road on river left overlooking the rehabilitation site. Both the homes and the road are set back some distance from the edge of the river and views from this location are buffered to some extent by vegetation, topography, and distance. Homes adjacent to Dutch Creek Road (KOPs UJC4-1 and UJC4-2) would have views of various parts of the downstream end of the site, depending on aspect. Parts of Activity Areas C-12, IC-4, and U-1 would be visible on river left from this area while most of the other activities on this side of the river would likely be screened by topography and distance from these residences (see Photos 3 and 4 in Table 19). Parts of R-9, R-10, R-11, R-13, and W-6 may also be visible on river right. Views by motorists traveling on this portion of Dutch Creek Road would be mostly obstructed by vegetation.

The U-3 spoil area in the Lower Junction City site would be visible to motorists traveling across the bridge on Dutch Creek Road (KOP LJC1-1; Photo 1 and 2 in Table 20). The views from this location would be brief as seen by motorists traveling along this route and would be buffered to some extent by topography. The U-3 spoil area is not visible from Red Hill Road due to vegetative screening and is also mostly obstructed from SR-299.

Project-related visual changes at the Proposed Project sites would be apparent to in-channel recreationists. In-channel recreationists such as rafters would have unobstructed views of much of the in-channel construction as well as some of the upland project activities where they are not blocked by dense riparian vegetation that is common to the Trinity River.

#### **MITIGATION MEASURES**

Implementation of the project could result in degradation and/or obstruction of a scenic view from key observation areas. In order to minimize impacts to visual resources resulting from the removal of vegetation in the project areas, mitigation measures 4.7-1a, 4.7-1b, and 4.7-1c, as described in Section 3.7 (Vegetation, Wildlife, and Wetlands), will be implemented where applicable. Visual impacts related to water quality (e.g., the potential for increased turbidity to adversely impact the aesthetic quality of the river) would be mitigated through the implementation of mitigation measures 4.8-3a, 4.8-3b, 4.8-3c, 4.8-3d, 4.8-3e, and 4.8-3f, as discussed in Section 3.8 (Recreation), where applicable. Implementation of the specified mitigation measures would reduce the impacts to less than significant.

**Impact 3.12-2:** Implementation of the proposed project could substantially change the character of, or be disharmonious with, existing land uses and aesthetic features.

**NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no construction would occur at the Proposed Project sites. No changes would occur to the character or harmony of aesthetic features and existing land uses. Therefore, there would be no impact.

**PROPOSED PROJECT**

Activities associated with the Proposed Project are intended to be not only functional (e.g., enhance fisheries and restore river sinuosity), but to complement the aesthetic values and visual resources associated with the rehabilitation sites. Overall, the Proposed Project incorporates the project area's diversity of landscapes and vegetation types to define the location, character, and magnitude of the rehabilitation activities at the sites. For example, materials excavated from riverine areas would be removed to upland areas or used as a source of coarse sediment to enhance the alluvial function of the river. Material transported to upland activity areas would be placed in a manner that blends the materials into the contours of the topography. Retention of existing topographic features would significantly lessen the degree of visual impact.

The activities described in Chapter 2 provide a framework for reestablishing the physical process necessary to enhance the alluvial attributes of the river channel and floodplain over time, particularly those attributes that are flow dependent. Over time, the Proposed Project would produce gradual, ever-improving changes in the aesthetic quality of this reach of the Trinity River, while maintaining the character of the surrounding land uses. Because changes associated with the Proposed Project would retain the character of existing land uses and features, implementation would result in a less than significant impact on aesthetic resources.

Impact 3.12-3: The proposed project may be inconsistent with the federal or state WSRA or Scenic Byway requirements.

**NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, the Proposed Project would not be constructed. No changes would occur that would be inconsistent with the federal or state WSRA or Scenic Byway requirements. Therefore, there would be no impact.

**PROPOSED PROJECT**

Under Section 7 of the WSRA, direct and adverse effects to the values for which the Trinity River was recognized as a Wild and Scenic River are prohibited. Project implementation would be consistent with these values because the activities would not be considered substantially out of character with the current aesthetic conditions. Implementation of the Proposed Project would result in a less than significant impact to WSRA and Scenic Byway requirements.

Impact 3.12-4: The proposed project could generate increased daytime glare and/or nighttime lighting.

**NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no changes in daytime glare or nighttime lighting would occur because the Proposed Project would not be constructed. Therefore, there would be no impact.

**PROPOSED PROJECT**

Under the Proposed Project, significant increases in daytime glare and/or nighttime lighting are not anticipated to occur. Construction activities would not take place during nighttime hours; therefore, nearby homes and motorists traveling on roads adjacent to the river corridor would not

be subjected to the headlights of construction equipment or stationary spotlights. Material removed from the floodplain and deposited at various activity areas is generally not reflective and would not increase the level of daytime glare observable to the viewer. Some changes may occur in the locations and amounts of glare produced by water over the constructed inundation surfaces, but, overall, these changes would be short-lived and variable by day, as well as season. These effects would be prolonged at the Lower Steiner Flat site because activities would occur in two phases. The impacts of these changes would be less than significant.

The most likely viewer group to be affected by daytime glare would be residents at the Upper Junction City Rehabilitation Site if they are present during daytime hours. Occurrences of daytime glare produced by the sun reflecting off the water or construction equipment would be of short duration, or temporary. Such an impact would be less than significant.

### **3.13 Hazards and Hazardous Materials**

#### **3.13.1 Affected Environment/Environmental Setting**

This section evaluates hazards and hazardous materials that may currently be present within the Proposed Project site boundaries. The potential for using hazardous materials or generating hazardous waste in conjunction with rehabilitation activities is discussed in the Trinity River Master EIR (Section 4.13). Hazardous materials and the potential for health hazards to be generated by implementation of the Proposed Project are also assessed in this section.

##### **HAZARDOUS MATERIAL AND HAZARDOUS WASTE**

Federal, state, and local agencies regulate hazardous materials and hazardous waste. Nonetheless, illegal storage and disposal and unintentional releases of hazardous materials or waste from leaks and accidents can occur when hazardous materials are used or hazardous waste is generated by a project. Regional roadways including SR-299 and Red Hill Road are frequently used to transport hazardous materials throughout Trinity County. Under the California Code of Regulations (CCR), Title 13, Section 1150-1194, and CFR, Title 49, the California Highway Patrol (CHP) regulates the transport of hazardous materials. When a spill of hazardous material or waste occurs on a highway, the CHP is responsible for directing cleanup and enforcement (CCR Section 2450-2453b).

##### **ROADWAYS AND EVACUATION ROUTES**

The Proposed Project sites are immediately adjacent to SR-299, Dutch Creek Road, and Lower Steiner Flat Road and access to the sites would be made from the latter two of these roads. These roads would serve as the primary evacuation routes for the sites.

##### **WILDLAND FIRE**

Steep topography and a mosaic of mixed-conifer, hardwood, and chaparral woodlands coupled with typically hot, dry summers create extreme fire danger throughout most of Trinity County. Human-caused fires, particularly along roadways and other developed areas, are relatively common, although the county is also frequently subject to lightning-caused fires. Wildland fire, regardless of the cause, can be detrimental to watershed function, killing vegetation, burning the organic matter in litter and soil, and forming impervious soil layers, factors that contribute directly to accelerated runoff and erosion from the watershed during and immediately after a storm event.

Trinity County fire protection needs are met by 16 volunteer fire departments dispersed throughout the county, Cal Fire, and the USFS. Cal Fire is responsible for wildland fire protection on all private

lands in Trinity County, and the USFS is responsible for wildland fire protection on all federal National Forest lands. However, Cal Fire also contracts with the BLM to provide wildland fire protection on its public lands. The Junction City Volunteer Fire Department (VFD) and Douglas City VFD provide services within their general plan areas and are responsible for structural fire protection and rescue services in Trinity County throughout the year.

#### **FLOODING AND SEISMIC EVENTS**

A review of the FEMA FIRMs indicates that the sites are within an area for which the BFEs have been determined and the sites are in a designated floodway. Areas designated by FEMA as being within “Zone X”, are subject to a 100-year flood with average depths of less than 1 foot or with drainage areas of less than 1 square mile. Trinity River flows through these sites are moderated by the TRD below Lewiston Dam.

Infrequently, seismic events occur in the region generally in the form of low to moderate levels of ground shaking associated with nearby or distant earthquakes. The potential for landslides triggered by seismic events is not significant within the corridor of the mainstem Trinity River, due to the low level of historical occurrence of seismic activity in the region. However, the steep topography and shallow, erosive soils found in much of the region increase the potential for landslides and rockfalls triggered by seismic events, precipitation, or other types of disturbances. Seismic activity known to occur in the project region is discussed in the Trinity River Master EIR (Sections 4.3 and 4.13), including a detailed discussion of geologic hazards that could be associated with rehabilitation sites.

### **3.13.2 Environmental Consequences/Impacts and Mitigation Measures**

#### **3.13.2.1 Methodology**

Hazards and hazardous materials associated with the rehabilitation sites were assessed in the field by TRRP staff. In addition, Trinity County Planning Department and Environmental Health Department staff will be consulted regarding the potential for hazardous substances to occur in the general vicinity of the project areas boundaries.

#### **3.13.2.2 Significance Criteria**

An impact related to hazards and hazardous materials would be significant if the project would:

- Involve the use, production, or disposal of materials that pose a hazard to people or to animal or plant populations in the area affected;
- Create a substantial potential public health or safety hazard due to risk of upset (accidents);
- Create a substantial potential public health or safety hazard due to a reasonably foreseeable release of hazardous materials and/or hazardous waste (i.e., from contaminated soil);
- Violate applicable laws intended to protect human health and safety or expose employees to working situations that do not meet health standards;
- Physically interfere with, or impair implementation of, emergency response plans or emergency evacuation plans;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to *California Government Code* Section 65962.5 and, as a result, create a significant hazard to the public or the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school; or
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires.

### 3.13.2.3 Impacts and Mitigation Measures

Table 22 summarizes the potential hazards and hazardous materials impacts that could result from construction of the project.

<b>Table 22. Summary of Hazards and Hazardous Materials Impacts for the No-Project and Proposed Project Alternatives</b>		
<b>No-Project Alternative</b>	<b>Proposed Project</b>	<b>Proposed Project With Mitigation</b>
Impact 3.13-1. Implementation of the project could increase the potential for release of, or exposure to, potentially hazardous materials that could pose a public health or safety hazard.		
No impact	Less than significant	Not applicable <sup>1</sup>
Impact 3.13-2. Construction activities associated with the project may interfere with emergency response and evacuation plans by temporarily slowing traffic flow.		
No impact	Less than significant	Not applicable <sup>1</sup>
Impact 3.13-3. Implementation of the project may contribute to wildland fire potential and catastrophic fire behavior in the project area.		
No impact	Less than significant	Not applicable <sup>1</sup>
Impact 3.13-4. Implementation of the project may contribute to an increased risk of landslides and flooding.		
No impact	Less than significant	Not applicable <sup>1</sup>

<sup>1</sup> Because this potential impact is less than significant, no mitigation is required.

Impact 3.13-1: Implementation of the proposed project could increase the potential for release of, or exposure to, potentially hazardous materials that could pose a public health or safety hazard.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, construction activities that could potentially release hazardous substances (e.g., oil, gas, diesel, and mercury) into the environment at levels that could pose a health or safety hazard to the public would not occur because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Activities associated with the Proposed Project would utilize potentially hazardous materials (e.g., oil and fuels) associated with the operation of vehicles and construction equipment during project construction. These materials are similar to those routinely used for other types of construction projects throughout Trinity County. The widespread use and associated transport of these materials along the highways and county roads that traverse Trinity County, combined with the low level of incidents (spills), suggest that impacts related to rehabilitation activities would be similar to that elsewhere in Trinity County. Given the temporary nature of construction and the distance from residences, schools, and frequently used recreation areas, implementation of BMPs

would minimize the potential for any project-related hazardous materials becoming a public hazard. This impact would be less than significant; therefore, no mitigation is required.

Impact 3.13.2: Construction activities associated with the proposed project may interfere with emergency response and evacuation plans by temporarily slowing traffic flow.

**NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, construction activities that could interfere with emergency response and evacuation plans would not occur because the project would not be constructed. Therefore, there would be no impact.

**PROPOSED PROJECT**

Under the Proposed Project, construction traffic would include the mobilization and demobilization of construction equipment (e.g., scrapers, excavators, and bulldozers) to and from the site over the course of the construction period. At the Lower Steiner Flat site, mobilization and demobilization would occur in two phases: Phase A would occur in 2012 and Phase B would occur at a later date. Once the equipment is on the site, construction traffic would be limited to daily trips for personnel and routine service and supply vehicles. Construction activities would be managed to ensure that emergency response and evacuation plans are not impeded. The impacts created would be less than significant; therefore, no mitigation is required.

Impact 3.13.3: Implementation of the proposed project may contribute to wildland fire potential and catastrophic fire behavior in the project area.

**NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, implementation of the project would have no impact on wildland fire potential or catastrophic fire behavior because the project would not be constructed. Therefore, there would be no impact.

**PROPOSED PROJECT**

The proposed activities described in Chapter 2 would occur within or adjacent to the riparian corridor of the Trinity River. Potential fuels within the boundaries of the sites (e.g., grasses and herbaceous weeds) are generally noncontiguous and the river serves as a substantial natural firebreak. The types and amounts of fuels and their continuity may be decreased temporarily by implementation of this alternative, particularly in areas subject to vegetation removal, but any such changes would not be significant with respect to fire potential and behavior. In the long-term, potential fire conditions would be similar to those that currently exist (e.g., potential fuels would be limited to riparian vegetation, sporadic grasses, and herbaceous weeds). Proposed Project implementation would have a less than significant impact on wildland fire potential and behavior; therefore, no mitigation is required.

Impact 3.13.4: Implementation of the proposed project may contribute to an increased risk of landslide or flooding.

**NO-PROJECT ALTERNATIVE**

The No-Project alternative would have no impact on the potential for landslides or flooding because the project would not be constructed. Therefore, there would be no impact.

## PROPOSED PROJECT

Under the Proposed Project, most of the activities described in Chapter 2 would take place in the river channel or floodplain, both of which have relatively flat topography. Furthermore, the alternative does not involve alteration of toe-slopes adjacent to any geologically unstable areas (e.g., landslides). Proposed Project implementation would result in either no change to the BFE or a reduction of the BFE, since stockpiled excavated material would be stored in the adjacent uplands. The potential for flooding would not be increased at the Proposed Project sites. These impacts would be less than significant; therefore, no mitigation is required.

### 3.14 Noise

This section evaluates the potential noise impacts associated with implementation of the Proposed Project. The evaluation is based on a review of local land use plans and policies pertaining to noise and field reconnaissance used to identify potential sensitive receptors within and adjacent to the boundaries of these sites. A detailed discussion of methodology used to quantify noise is provided in the Trinity River Master EIR (Section 4.14).

#### 3.14.1 Affected Environment/Environmental Setting

Noise is generally defined as excessive and unwanted sound emanating from noise-producing objects. Total environmental noise exerts a sound pressure level that is generally measured with an A-weighted decibel scale (dBA), which approximates the range of sound audible to the human ear (where 10dBA is at the low threshold of hearing and 120-140dBA is the threshold of pain). Human responses to noise are subjective and can vary. The subjective effects of noise are difficult to measure as are the corresponding reactions of annoyance and dissatisfaction. Individual tolerance thresholds vary widely based on an individual's past experiences with noise. Intensity, duration, frequency, time pattern of noise, and existing background noises are some factors that can influence individual responses to noise. Table 4.14-1 of the Trinity River Master EIR lists examples of dBA levels for a range of noises and Table 4.14-2 lists the U.S. General Services Administration maximum noise levels allowed for government contract construction activities. Typical construction noise levels that could occur at the rehabilitation sites as a result of project activities are shown in Table 23. The noise levels shown in this table assume the operation of various types of construction equipment, as shown in Table 24.

<b>Table 23. Typical Construction Noise Levels</b>	
<b>CONSTRUCTION STAGE</b>	<b>NOISE LEVEL (DBA, L<sub>Eq</sub>)<sup>1</sup></b>
Ground clearing	84
Excavation	89
Hauling	88
Revegetation	65

<sup>1</sup> Average noise levels 50 feet from the noisiest source and 200 feet from the rest of the equipment associated with a given construction stage. Noise levels correspond to public works projects (50 dBA ambient environments) (Bolt et al. 1971).

<b>Table 24. Construction Equipment Noise</b>	
<b>TYPE OF EQUIPMENT</b>	<b>MAXIMUM LEVEL (DBA AT 50 FEET)</b>
Truck	75
Scrapers	80
Bulldozers	75
Backhoe	75
Pneumatic tools	80

Source: Sincero and Sincero 1996

Noise is not considered a problem in Trinity County. A community noise survey was conducted in Trinity County in 2002 (Brown-Buntin 2002) as part of an update that was being developed for the noise element of the County's General Plan. The community noise survey results indicate that typical noise levels in noise-sensitive areas range from approximately 44 to 52 dB Ldn<sup>11</sup>. These are low noise levels and are representative of small communities and rural areas. Maximum noise levels observed during the survey were generally caused by local automobile traffic or heavy trucks. Other sources of maximum noise levels included occasional aircraft and construction activities. Background noise levels in the absence of these maximum-noise generating sources are largely attributable to distant traffic, water, wind, livestock, birds, and insects.

Noise-sensitive receptors that have been identified in the general vicinity of the Proposed Project sites include private residential areas; persons, primarily recreationists (e.g., hikers, picnickers, anglers, and rafters); and wildlife that use the Trinity River corridor. Noise tolerance levels for these groups are subjective, varying widely between individuals.

The Lower Steiner Flat Rehabilitation Site is located adjacent to Lower Steiner Flat Road; the Upper Junction City Rehabilitation Site is adjacent to Dutch Creek Road as well as SR-299, which is one of the area's larger roads; and the Lower Junction City Rehabilitation Site is also adjacent to Dutch Creek Road and SR-299. Traffic from these roads would be heard passing by both of these sites. Even though the sites are adjacent to these relatively heavily traveled roads, traffic-generated noise is generally infrequent and buffered by vegetation and topography.

The homes on the left bank of the Upper Junction City Rehabilitation Site represent a sensitive noise receptor within the site boundaries. Residential areas are subjected to varying degrees of ambient noise levels from the river (including recreationists) and intermittent traffic using roads in the project vicinity. Because the homes at Upper Junction City sit upslope of the floodplain, noise from the river can be readily apparent. Existing vegetative would provide a buffer for some of the noise that would be generated in the site's river-side project activity areas.

To varying degrees, construction vehicles entering and leaving the sites would temporarily increase traffic levels and, thus, ambient noise levels along the roads adjacent to the sites. Homes on river left of the Upper Junction City site as well as the structures on river right may experience some increased ambient noise levels during construction, but in general, noise levels would be buffered somewhat by distance and vegetation.

<sup>11</sup> dB L<sub>dn</sub> = The average equivalent sound level during a 24-hour day, obtained after addition of 10 A-weighted decibels to sound levels in the night after 10:00 p.m. and before 7:00 a.m. A-weighted decibels, abbreviated dBA, or dBa, or dB(a), are an expression of the relative loudness of sounds in air as perceived by the human ear.

### 3.14.2 Environmental Consequences/Impacts and Mitigation Measures

#### 3.14.2.1 Methodology

Since the Proposed Project would not result in a noticeable increase in traffic volume, construction-related noise is the focus of this impact analysis. Construction noise impacts are based on an assumed mixture of construction equipment and related noise levels. Assumptions related to construction equipment and industry noise averages were used to evaluate construction-related noise impacts, including noise levels at the nearest sensitive receptors.

#### 3.14.2.2 Significance Criteria

Based on Appendix G of the CEQA Guidelines (Association of Environmental Professionals 2008) the Proposed Project would have a significant direct noise impact if it would result in:

- Exposure of persons to, or generation of, excessive ground-borne vibration or ground-borne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above existing levels; or
- Exposure of persons to, or generation of, noise levels in excess of standards established in the Trinity County General Plan noise element, or applicable standards of other agencies.

#### 3.14.2.3 Impacts and Mitigation Measures

Table 25 summarizes the potential noise impacts resulting from implementation of the No-Project alternative and Proposed Project.

<b>Table 25. Summary of Potential Noise Impacts for the No-Project and Proposed Project Alternatives</b>		
<b>No-Project Alternative</b>	<b>Proposed Project</b>	<b>Proposed Project With Mitigation</b>
Impact 3.14-1. Construction activities associated with the proposed project would result in noise impacts to nearby sensitive receptors.		
No impact	Significant	Less than significant

Impact 3.14-1: Construction activities associated with the proposed project would result in noise impacts to nearby sensitive receptors.

##### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no change in ambient noise levels would occur because the project would not be constructed. Therefore, there would be no impact.

##### **PROPOSED PROJECT**

During the construction phase of the project, noise from construction activities would temporarily dominate the noise environment in the immediate area of the sites. Construction activities would generate maximum noise levels ranging from 65 to 84 dBA at a distance of 50 feet, although intervening terrain and vegetation could reduce these noise levels. Construction noise would be temporary and is expected to occur primarily between the months of July and December. Because activities at the Lower Steiner Flat Rehabilitation Site would be implemented in two phases, there

would be two distinct timeframes wherein noise levels would be increased. There would be no permanent noise impacts resulting from implementation of the Proposed Project.

Residences located within the Upper Junction City Rehabilitation Site boundaries would be subjected to varying degrees of construction noise. It is not anticipated that ground vibration created by project activities would be detectable at any sensitive receptor location and would not result in any structural damage. Recreational users in the general vicinity of the site could encounter increased ambient noise levels during construction activities. While such an increase in noise would be significant, its impact would be temporary and localized.

#### **MITIGATION MEASURES**

Construction activities associated with the project would result in noise impacts to nearby sensitive receptors. Therefore, mitigation measures 4.14-1a, 4.14-1b, and 4.14-1c described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of the specified mitigation measures would reduce the impacts to less than significant.

### **3.15 Public Services and Utilities/Energy**

This section addresses the public services and utilities associated with the Proposed Project sites and evaluation of the impacts on these resources from implementation of the Proposed Project. These resources are described in the Trinity River Master EIR, Section 4.15.

#### **3.15.1 Affected Environment/Environmental Setting**

##### **WATER SUPPLY AND DISTRIBUTION**

Community and private water systems serve development in the Douglas City community. The Weaverville Community Services District serves several residences and the two mobile home parks in Douglas City. The private water systems consist of individual and shared wells, springs, and river intakes. No community water systems exist in Junction City; mutual and private water systems serve the Junction City community. The majority of the residential, commercial, and recreational developments within or adjacent to the Proposed Project sites are served by private water systems that derive water from individual wells, springs, and river-intake systems. Surface water sources are more frequently used for domestic purposes along the river corridor than groundwater sources and often require varying levels of treatment prior to use.

##### **SURFACE WATER**

The Trinity River is the primary surface water body at the rehabilitation sites. Surface water is used primarily for domestic purposes, including gardens, livestock, and fire protection. The TRRP has been working with landowners in the general vicinity of rehabilitation sites to relocate surface water intake systems affected by post-ROD flows.

##### **GROUNDWATER**

Groundwater wells provide water for domestic and commercial purposes in the vicinity of the Proposed Project sites. Due to the location and nature of the terrain, groundwater levels respond generally to river stage. Geologic investigations conducted for the project suggest that groundwater levels fluctuate seasonally with river flows. Some domestic water sources collect groundwater from deep wells. Project activities have been designed to ensure that known groundwater wells are avoided.

### **SOLID WASTE COLLECTION AND DISPOSAL**

Trinity County operates nine solid waste transfer stations throughout the county, where waste is collected for shipment by truck to the Anderson Landfill in Shasta County. Solid waste collected from the rehabilitation sites would be transported by truck either to the Weaverville transfer station or to the landfill located in Anderson.

### **FIRE PROTECTION AND EMERGENCY SERVICES**

Cal Fire, BLM, and USFS provide fire protection services throughout Trinity County. Cal Fire generally provides fire protection services between May and late October. During the winter, Cal Fire responds from Weaverville with one engine, if personnel are present. During the summer, Cal Fire is equipped to provide three engines with 2,250 gallons of water and 12 to 13 firefighters. Minimum response time is 15 to 20 minutes on average. Half of these responses are typically for structure or flue fires and half are for wildland fires. The Junction City VFD and Douglas City VFD provide fire protection services for the areas surrounding the Proposed Project sites.

The Douglas City VFD provides fire protection services in the vicinity of Douglas City. This VFD is the primary fire protection agency for structural fires; it maintains a fire station in the Douglas City community core area with two engines and a quick response vehicle with a 200-gallon slip-on tank. This VFD maintains a second fire station in the Poker Bar-Vizhum Grade area that is supported by volunteers from the local response area. This station has one engine and a service truck.

The Junction City VFD provides fire protection services in the vicinity of Junction City. The crews in this VFD are the primary responders to vehicle accidents, structure fires, and wildland fires on a year-round basis. This VFD maintains three fire engines, a rescue vehicle, and a water tender.

### **SCHOOLS**

The Douglas City Elementary and Junction City Elementary schools consist of grades kindergarten through eight. The Douglas City Elementary school district provides bus service for residents in this community; however, there is no bus service for Junction City Elementary. Bus service is provided throughout these communities for students attending Trinity High School in Weaverville.

## **3.15.2 Environmental Consequences/Impacts and Mitigation Measures**

### **3.15.2.1 Methodology**

The analysis addresses potential impacts from implementation of activities at the Proposed Project sites on a number of public services and facilities that are described in detail in the Trinity River Master EIR. The analysis qualitatively addresses potential impacts on energy resources resulting from substantial or wasteful energy use during project construction. The analysis is based on a review of planning documents applicable to the sites and field reconnaissance.

### **3.15.2.2 Significance Criteria**

The project would normally have a significant impact on public services or utilities under CEQA if it would:

- Not comply with published national, state, or local statutes, regulations, or standards relating to solid waste;
- Interfere with emergency services;
- Degrade the level of service of a public service or utility;
- Require relocating infrastructure;

- Result in substantial adverse physical impacts associated with the provision of, or need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios; response times; or other performance objectives for fire protection, police protection, schools, parks, or other public services;
- Require substantial improvements to the infrastructure or level of staffing of a public service or utility to maintain its existing level of service;
- Require or result in the construction of new water treatment, wastewater treatment, or storm water drainage facilities, or the expansion of such existing facilities, the construction of which could cause significant environmental effects;
- Be served by a landfill without sufficient permitted capacity to accommodate the project's solid waste disposal needs;
- Disrupt utilities service to create a public health hazard or extended service disruption; or
- Encourage activities that result in the use of large amounts of fuel or energy, or would use fuel or energy in a wasteful manner.

### 3.15.2.3 Impacts and Mitigation Measures

Table 26 summarizes the potential impacts on public services and utilities that could result from Proposed Project implementation.

<b>Table 26. Summary of Public Services and Utilities Impacts for the No-Project and Proposed Project Alternatives</b>		
<b>No-Project Alternative</b>	<b>Proposed Project</b>	<b>Proposed Project With Mitigation</b>
Impact 3.15-1. Implementation of the project could disrupt existing electrical and phone service during construction activities.		
No impact	Less than significant	Not applicable <sup>1</sup>
Impact 3.15-2. Construction of the project could result in the generation of increased solid waste.		
No impact	Less than significant	Not applicable <sup>1</sup>
Impact 3.15-3. Implementation of the project could result in disruption to emergency services, school bus routes, or student travel routes during construction activities.		
No impact	Significant	Less than significant
Impact 3.15-4. Construction of the project could result in a substantial use of nonrenewable energy resources.		
No impact	Less than significant	Not applicable <sup>1</sup>

<sup>1</sup> Because this potential impact is less than significant, no mitigation is required.

Impact 3.15-1: Implementation of the proposed project could disrupt existing electrical and phone service during construction activities.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no construction-related disruption to existing electrical or telephone service would occur because the project would not be implemented. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Under the Proposed Project, no activities would occur to disrupt electrical or telephone service within or adjacent to the sites. Utility poles and/or underground lines located within the boundaries of the sites would be identified by the TRRP, and activities described in Chapter 2 have

been designed to avoid impacts to these facilities. A number of electrical and phone lines cross access roads to the sites, typically in a manner that provides adequate vehicular clearance for phone and utility lines. These clearances would be adequate to allow access by construction equipment. Potential impacts on electrical and phone utilities and services at the Proposed Project sites as a result of project implementation would be less than significant; therefore, no mitigation is required.

**Impact 3.15-2:** Construction of the proposed project could result in the generation of increased solid waste.

#### **NO-PROJECT ALTERNATIVE**

Increased quantities of solid waste would not be generated under the No-Project alternative because there would be no construction activities. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Under the Proposed Project, construction would result in the generation of solid waste associated with the removal of substantial amounts of vegetation and other construction-related waste (e.g., garbage, containers, and oil). Vegetative materials (e.g., stumps, roots, and branches) would be disposed of within the sites. Disposal methods for vegetative materials could include chipping to provide mulch, burial, piling to provide wildlife habitat on site, burning, or integration into the activity areas to provide structural habitat for juvenile fish. Solid waste generated by construction activities would either be disposed of at a local transfer station (Weaverville) or transported by truck to the Anderson Landfill in Shasta County. The Anderson Landfill currently has sufficient capacity and the necessary permits to accommodate non-hazardous construction waste. The contractor would be responsible for ensuring appropriate disposal of any hazardous waste, as approved by Reclamation. Disposal of potentially hazardous waste is evaluated in Section 3.12, Hazards and Hazardous Materials.

Temporary access routes built for project implementation would be closed and/or decommissioned to ensure that the number of public access points on public lands would not increase, which could require the provision of public services (e.g., solid waste disposal) at locations that are inconsistent with agency management plans, guidelines, and policies. Therefore, this impact would be less than significant.

**Impact 3.15-3:** Implementation of the proposed project could result in disruption to emergency services, school bus routes, or student travel routes during construction activities.

#### **NO-PROJECT ALTERNATIVE**

Since there would be no construction activities associated with implementation of the No-Project alternative, emergency services, school bus routes, and student travel routes would not be disrupted. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Construction activities at the sites would be confined within the project boundaries described in Chapter 2. Construction personnel and service vehicles would use designated routes to and from the sites. Traffic control associated with site activities would be minimal and is not expected to cause more than minimal disruptions to public services. Access for mobilization and demobilization of heavy equipment, however, may require a higher level of traffic control for local roadways and may disrupt traffic flow and circulation before, during, and after construction. Therefore, effects on emergency services, school bus routes, and student travel routes resulting

from heavy equipment would be significant. At the Lower Steiner Flat site, impacts could occur during Phase A implementation in 2012 and during implementation of Phase B.

No road/bridge closures are planned for project implementation; however, in the event that it becomes necessary to temporarily close a road or bridge as a result of project activities, the road/bridge closures would occur during non-peak hours to avoid traffic circulation impacts associated with emergency services and school bus services. A closure, even during non-peak hours (i.e., 11:00 p.m. to 6:00 a.m.) could have the potential to increase significantly the response time for law enforcement, fire protection, and other emergency services. In the event that road closures would be required during the school year (mid-August through mid-June), these closures could delay school bus service, where it exists. While this impact would be temporary, it could interfere with student access to bus service and, thus, school attendance. Because of the potential for temporary traffic controls on local roadways, increased response time for emergency services, and interference with student travel, the impact would be significant.

#### **MITIGATION MEASURES**

Implementation of the project could result in disruption to emergency services, school bus routes, or student travel routes during construction activities. Therefore, mitigation measures 4.15-3a, 4.15-3b, and 4.15-3c described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project implementation. Implementation of the specified mitigation measures would reduce the impacts to less than significant.

Impact 3.15-4: Construction of the proposed project could result in a substantial use of nonrenewable energy resources.

#### **NO-PROJECT ALTERNATIVE**

No use of nonrenewable energy resources would occur under the No-Project alternative because construction activities would not occur. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Energy expenditures associated with construction at the sites would include both direct and indirect uses of energy. Combustion of the refined petroleum products needed to operate construction equipment would be part of the direct energy use. Indirect energy use typically represents about three-quarters of total construction energy usage, with direct energy use constituting the remaining quarter. Though construction energy would be consumed only during the construction phase, it would represent an irreversible consumption of finite natural energy resources.

Construction would directly consume fuel and electricity. Construction would also indirectly consume fuel and electricity because of the energy used to provide the materials necessary for construction. Fuel would be consumed by both construction equipment and construction-worker vehicle trips. Minor electrical use might be required for some construction equipment, such as welding machines, power tools, and pumps.

Construction energy consumption would be a short-term impact and would not be an ongoing drain on finite natural resources. Construction would consume energy primarily in the form of fuel from local commercial sources and would not have a significant effect on local or regional energy sources. Therefore, this impact would be less than significant.

### 3.16 Transportation/Traffic Circulation

This section describes the existing transportation and traffic conditions in proximity to the Proposed Project sites and evaluates the potential impacts to transportation resources and traffic circulation from implementation of the Proposed Project.

#### 3.16.1 Affected Environment/Environmental Setting

Regional and local roadways and circulation in the vicinity of the Proposed Project sites are described in Section 4.16 of the Trinity River Master EIR. Table 27 identifies and characterizes the access roads for the sites. Based on reconnaissance information provided by TRRP staff and members of the design team, the roads identified in the table are maintained to varying degrees by the responsible party. No improvements to these roads are anticipated from project activities.

<b>Table 27. Roadway Characteristics for Potential Access Roads Serving the Proposed Project Sites</b>				
<b>Road Name</b>	<b>Ownership</b>	<b>Surface Type</b>	<b>Roadway Class</b>	<b>Traffic Counts (ADT)</b>
Lower Steiner Flat Road	County	Paved	Local/ Residential	1,290
Sky Ranch Road	County	Paved	Local/ Residential/ Scenic County Roadway	76
Dutch Creek Road	County	Paved	Local/ Residential	950 at SR-299 147 at Red Hill Road
SR-299	State	Paved	Highway/ Scenic Byway	2,950 east of Junction City 1,900 west of Junction City
Red Hill Road	County	Paved	Minor Collector	822 at Dutch Creek

Sources: Caltrans Information: <http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/2007>; Smith, pers. comm. 2008

SR-299 is a designated truck route between the Sacramento Valley and the coastal communities of northern California. It is the main access corridor to Trinity County and provides primary access to the Trinity River, including the Proposed Project sites. Lower Steiner Flat Road, Sky Ranch Road, Dutch Creek Road, Red Hill Road, and Evans Bar Road are all located in the vicinity of the sites. These roads are part of Trinity County's road system and provide access to residential areas and federal and private timberlands via SR-299. There are a number of private roads that serve residences and provide access for forest management activities. Public access is often restricted by private land owners. In addition to using existing roads to access the rehabilitation sites, roads within the boundaries of the sites would be used to support various activities. New temporary access roads would be required to provide access for construction and monitoring activities.

Bicycle, pedestrian, and equestrian circulation is limited in the communities and residential neighborhoods that have developed along the Trinity River below Lewiston Dam. The Douglas City Community Plan contains goals to increase bicycle, pedestrian, and equestrian travel in this planning area. These community plan goals have not yet been implemented. However, pedestrians and equestrians use county and private roads that are adjacent to the river for exercise and recreational pursuits including Steiner Flat Road, Riverview Road, Poker Bar Road, Reo Lane, and Steel Bridge Road. The Junction City Community Plan also contains a goal to increase bicycle, pedestrian, and equestrian travel and safety by developing bicycle routes, trails, and pedestrian walkways. Red Hill Road runs parallel to the Trinity River along the south bank downstream of

Canyon Creek. This road was widened by Trinity County to include a bike lane, primarily to provide alternative transportation between local residences and Junction City Elementary School. Although bike lanes are not available on other roads in the general vicinity of Junction City, bicyclists, pedestrians, and equestrians use these roads for access, exercise, and recreational pursuits.

### 3.16.2 Environmental Consequences/Impacts and Mitigation Measures

#### 3.16.2.1 Methodology

A qualitative assessment of traffic impacts was performed, based on the construction procedures and equipment that would be used, local transportation policies, site review of existing conditions, and traffic levels on key roadways.

#### 3.16.2.2 Significance Criteria

Significance criteria were developed based on Appendix G of the CEQA Guidelines, as well as project-specific issues identified during the scoping process (e.g., access during construction). For the project, significant construction-related impacts would result if the project would:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections);
- Exceed, either individually or cumulatively, a level of service standard established by the county for designated roads or highways;
- Affect the form or function of SR-299, specifically bridges extending over the Trinity River and its tributaries;
- Affect the form or function of bridges under the jurisdiction of Trinity County or private parties;
- Disrupt existing traffic operations, including vehicular and bicycle traffic;
- Significantly degrade the existing conditions of local private roads;
- Obstruct access to adjacent land uses, including emergency access;
- Affect the operation of the local transit system;
- Conflict with adopted policies, plans, or projects supporting alternative transportation;
- Pose a safety hazard to motorists, bicyclists, equestrians or pedestrians;
- Cause substantial damage to or wear of public and private roadways; or
- Reduce available parking capacity.

#### 3.16.2.3 Impacts and Mitigation Measures

Table 28 summarizes the potential transportation and traffic impacts that would result from implementation of the project.

<b>Table 28. Summary of Potential Transportation Impacts for the No-Project and Proposed Project Alternatives</b>		
<b>No-Project Alternative</b>	<b>Proposed Project</b>	<b>Proposed Project With Mitigation</b>
3.16-1. Construction activities would reduce/close existing traffic lanes.		
No impact	Less than significant	Not applicable <sup>1</sup>

<b>Table 28. Summary of Potential Transportation Impacts for the No-Project and Proposed Project Alternatives</b>		
<b>No-Project Alternative</b>	<b>Proposed Project</b>	<b>Proposed Project With Mitigation</b>
3.16-2. Construction activities would generate short-term increases in vehicle trips.		
No impact	Significant	Less than significant
3.16-3. Implementation of the project would obstruct access to adjacent land uses.		
No impact	Less than significant	Not applicable <sup>1</sup>
3.16-4. Construction activities would increase wear and tear on local roadways.		
No impact	Significant	Less than significant
3.16-5. Construction activities could pose a safety hazard to motorists, bicyclists, pedestrians, and equestrians.		
No impact	Significant	Less than significant
3.16-6. Construction activities could affect the form or function of bridges under the jurisdiction of Caltrans, Trinity County, or private parties.		
No impact	Less than significant	Not applicable <sup>1</sup>

<sup>1</sup> Because this potential impact is less than significant, no mitigation is required.

Impact 3.16-1: Construction activities would reduce/close existing traffic lanes.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, there would be no construction-related reduction or closure of traffic lanes. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Construction activities associated with the Proposed Project would be managed to ensure that SR-299, Dutch Creek Road, and Lower Steiner Flat Road, the primary roads serving as access for the sites, would remain open to through-traffic. Temporary traffic control may be necessary during the mobilization and demobilization of heavy equipment; however, no road closures are planned. Passage for emergency vehicles would not be restricted. The adequate passage of traffic within and through the construction area in the event of an emergency evacuation is discussed in Section 3.13, Hazards and Hazardous Materials. Because any traffic control requirements associated with project access roads would be temporary, this impact would be less than significant.

Impact 3.16-2: Construction activities would generate short-term increases in vehicle trips.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, short-term increases in vehicle trips would not occur because there would be no construction activities. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Construction activities associated with rehabilitation activities would require truck and worker vehicle trips on SR-299, Dutch Creek Road, and Lower Steiner Flat Road leading to and from the rehabilitation sites; thus, vehicle trips would increase on these roads. Construction equipment (e.g., large trucks, excavators, and back-hoes) would be mobilized to the sites prior to rehabilitation activities and would be removed upon completion of these activities. During the construction period, when the greatest number of workers and trucks would be required, 20 to 30 construction workers and their vehicles would need access to the sites daily. These vehicle trips would be added

to area roads on a recurring basis for the duration of rehabilitation activities at the sites. At the Lower Steiner Flat site, impacts could occur during Phase A implementation in 2012 and during implementation of Phase B.

Throughout construction, Reclamation would limit the amount of daily construction equipment traffic by staging the construction equipment and vehicles in the project boundary for the duration of work at each site. Post-construction activities (i.e., revegetation, maintenance, and monitoring) would require intermittent access for 3 to 5 years. Existing traffic volumes along SR-299, Dutch Creek Road, and Lower Steiner Flat Road are moderate, and the potential increase in traffic generated from construction would be localized and minimal.

#### **MITIGATION MEASURES**

Construction activities would generate short-term increases in vehicle trips. Therefore, mitigation measure 4.16-2a described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of the specified mitigation measure would reduce the impacts to less than significant.

Impact 3.16-3: Implementation of the proposed project would obstruct access to adjacent land uses.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, access to adjacent land uses would not be affected because no construction activities would occur. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

As described in Section 3.1, land uses in and adjacent to the sites consist mainly of public and private forestry and other resource lands and private residential areas. Land uses in the Junction City Community Plan area that are near the Upper Junction City and Lower Junction City Sites include residential, logging and other resource uses, and recreation. Construction activities associated with the Upper Junction City and Lower Junction City sites would use primary access points on SR-299, Evans Bar Road, Sky Ranch Road, Dutch Creek Road, Red Hill Road, Hocker Flat Road, and various private roads. Land uses in the Douglas City Community Plan area that are near the Lower Steiner Flat Rehabilitation Site include residential, resource, commercial, mineral, and recreational uses. Construction activities associated with the Lower Steiner Flat site near Douglas City would use primary access points on SR-299, SR-3, Browns Mountain Road, Union Hill Road, Steel Bridge Road, River View Road, Steiner Flat Road, and various private roads. Access to adjacent public and private lands could be restricted for short periods of time using traffic control measures. Short-term recreational access to the Trinity River could be restricted, to varying degrees, during construction activities. Impacts at the Lower Steiner Flat site could occur during Phase A implementation in 2012 and during implementation of Phase B. However, several public access points would be available around these stretches of the river during the project implementation period, both upstream and downstream. Impacts related to recreational access and other recreational resources are discussed under Section 3.7, Recreation. Short-term access limitations coupled with the construction criteria described in Appendix A (Traffic Control/Detour) would result in an impact that is less than significant for the Proposed Project sites.

Impact 3.16-4: Construction activities would increase wear and tear on local roadways.

**NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, there would be no wear and tear on local roadways. Therefore, there would be no impact.

**PROPOSED PROJECT**

SR-299 is a designated truck route that was built to withstand occasional use by heavy equipment. Other local roads over which project-related trucks and heavy equipment must pass may not be constructed or maintained to support substantial volumes of truck traffic. Numerous local roadways would provide access for construction-related activities, including roads under the jurisdiction of federal, state, and local agencies. Use of these roads by project-related trucks and heavy equipment would increase wear and tear on the local roadways and could result in adverse impacts on road conditions. The degree of impact would depend on roadway design and existing condition prior to the onset of TRRP activities. Because SR-299 was designed to accommodate a mix of vehicle types, including heavy trucks, the project is not expected to add significantly to roadway wear-and-tear on this highway.

While construction equipment would generally be staged on-site during construction, additional truck travel on local roads would be required when excavated material is used to replenish river gravel supplies. Project planning to use on-site coarse sediment would minimize heavy equipment use on local roads needed for access to the sites. Additionally, trucks carrying heavy equipment would operate within the legal weight limits as determined by the state. The number and types of activities could require some level of road reconstruction at select sites before or after Project implementation. The level of construction traffic could also require additional maintenance for some road segments in conjunction with various activities. Although standard construction and transportation practices would be implemented to reduce the potential adverse impacts on roadway conditions, the potential wear and tear on some roads under the Proposed Project would be a significant impact.

**MITIGATION MEASURES**

Construction activities would increase wear and tear on local roadways. Therefore, mitigation measure 4.16-4a described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of the specified mitigation measure would reduce the impacts to less than significant.

Impact 3.16-5: Construction activities could pose a safety hazard to motorists, bicyclists, pedestrians, and equestrians.

**NO-PROJECT ALTERNATIVE**

The No-Project alternative would not pose a safety hazard to motorists, bicyclists, pedestrians, and equestrians because there would be no construction activities. Therefore, there would be no impact.

**PROPOSED PROJECT**

Traffic safety hazards could arise for motorists, bicyclists, pedestrians, and equestrians in the vicinity of the construction access routes for the Project sites as a result of the movement of project-related trucks and heavy construction equipment. Impacts at the Lower Steiner Flat site could occur during both Phase A and Phase B implementation. Truck and equipment access to the

Trinity River during construction activities would be limited to designated routes to minimize public exposure to construction traffic. Trucks entering and exiting access roads off SR-299, Dutch Creek Road, and Lower Steiner Flat Road may pose a particular hazard to motorists, cyclists, and equestrians using the roadway. The safety hazard would be limited to brief and intermittent time periods; nevertheless, it would be significant.

#### **MITIGATION MEASURES**

Construction activities could pose a safety hazard to motorists, bicyclists, pedestrians, and equestrians. Therefore, mitigation measure 4.16-5a described in Appendix A will be implemented to reduce the potential for impacts associated with the Proposed Project. Implementation of the specified mitigation measure would reduce the impacts to less than significant.

Impact 3.16-6: Construction activities could affect the form or function of bridges under the jurisdiction of Caltrans, Trinity County, or private parties.

#### **NO-PROJECT ALTERNATIVE**

The No-Project alternative would not affect bridges under the jurisdiction of Caltrans, Trinity County, or private parties because there would be no construction activities. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

A number of bridges over the Trinity River and/or its tributaries could be used to access the sites, depending on where the equipment is coming from. The hydraulic model (HEC-RAS) described in the Trinity River Master EIR, Section 4.4, Water Resources, has been used to integrate the hydraulic controls established by these constructed features. Modification of the form or function of these structures would not be affected by rehabilitation activities in close proximity to these sites. Therefore, this impact would be less than significant.

### **3.17 Tribal Trust**

The United States has a trust responsibility to protect and maintain rights reserved by, or granted to, federally recognized Indian tribes and individual Indians by treaties, statutes, and executive orders. The Secretary of the Interior is the trustee for the United States on behalf of Indian tribes and individuals. The trust responsibility requires that all federal agencies, including Reclamation, take all actions reasonably necessary to protect and maintain Indian trust assets.

Indian trust assets are legal interests in property held in trust by the federal government for federally recognized Indian tribes or individual Indians. "Assets" are anything owned that has monetary value. "Legal interest" means that a property interest exists for which there is a legal remedy, such as compensation or injunction, if there is improper interference. Indian trust assets can be real property, physical assets, or intangible property rights, such as a lease or a right of use. While most Indian trust assets are located on-reservation, they can also be located off-reservation. Examples of Indian trust assets include, but are not necessarily limited to, land, natural resources, native plants and wildlife, cultural resources, minerals, hunting and fishing rights, water rights, and instream flow. Tribal trust resources are discussed in Section 7.17 of the Trinity River Master EIR.

### **3.17.1 Affected Environment/Environmental Setting**

The need to restore and maintain the natural production of anadromous fish in the mainstem Trinity River is derived in part from the federal government's trust responsibility to protect the fishery resources of the region's Indian tribes. The Trinity River Basin Fish and Wildlife Restoration Act of 1984 (Public Law 98-541) expressly acknowledges tribal interests in the basin's fishery resources by declaring that the measure of successful restoration of the Trinity River fishery includes the "ability of dependent tribal...fisheries" to participate fully, through enhanced in-river "harvest opportunities, in the benefits of restoration." In addition, the 1992 CVPIA specifically recognizes the federal trust responsibility in regard to the Trinity River fishery. The project could potentially affect anadromous fish, non-anadromous fish, water, wildlife, vegetation, and overall riverine health; these impacts in turn could affect the sociocultures and economics of tribes.

This section focuses principally on the interests of the HVT and YT because, of the Indian tribes of the Klamath/Trinity Region, their interests could be the most directly affected by the project. It should be understood, however, that potential project impacts are pertinent to the Karuk and Klamath people as well, since they share a common regional heritage.

#### **3.17.1.1 Regional Setting**

In 1855, President Pierce established the Klamath River Reservation. The reservation was designated as a strip of territory commencing at the Pacific Ocean and extending 1 mile in width on each side of the Klamath River for a distance of approximately 20 miles. Although the federal government's intent was to eventually move all the region's Indians onto the Klamath River Reservation, only some Yurok and Tolowa were moved. In 1864, the USDI issued a proclamation and instructions that established the Hoopa Valley Reservation on the Trinity River pursuant to legislation enacted by Congress that same year. The reservation is 12 miles square and bisected by 15 miles of the river (it has often been called the Square or the 12-mile Square). In 1876, President Grant issued an Executive Order formally establishing the boundaries of the Hoopa Valley Reservation.

Efforts soon began to provide a single contiguous homeland for the region's Indian people by connecting the Klamath River Reservation to the Hoopa Valley Reservation. In 1891, President Harrison extended the Hoopa Valley Reservation from the mouth of the Trinity River to the ocean, thereby encompassing and including the Hoopa Valley Reservation, the original Klamath River Reservation, and the intervening connecting strip. In 1988, Congress, under the Hoopa-Yurok Settlement Act, separated the Hoopa Valley Reservation into the present Yurok Reservation (a combination of the original Klamath River Reservation and other lands) and Hoopa Valley Reservation.

#### **3.17.1.2 Indian Federally Reserved Rights**

The United States has a trust responsibility to protect tribal trust resources. In general, this tribal trust responsibility requires that the United States protect tribal fishing and water rights, which are held in trust for the benefit of the tribes (U.S. Department of the Interior 1995). This trust responsibility is one held by all federal agencies. For projects under the auspices of the TRRP, Reclamation is obligated to ensure that these projects do not interfere with the tribes' senior water rights. Pursuant to its trust responsibility and consistent with its other legal obligations,

Reclamation must also prevent activities under its control that would adversely affect Tribal fishing rights, even when those activities take place off-reservation.

#### **FISHING RIGHTS**

Salmon, steelhead, sturgeon, and lamprey that spawn in the Trinity River pass through the Hoopa Valley and Yurok Reservations and are harvested in tribal fisheries. The fishing traditions of these tribes stem from practices that far pre-date the arrival of non-Indians. Accordingly, when the federal government established what are today the Hoopa Valley and Yurok Indian Reservations on the Trinity and Lower Klamath Rivers, it reserved for the benefit of the Indian tribes of those reservations a right to the fish resources in the rivers running through them. The federally reserved fishing rights of the YT and HVT entitle them to take fish for ceremonial, subsistence, and commercial purposes. The federal government, as trustee, has an affirmative obligation to manage federally reserved Indian rights for the benefit of federally recognized Indian tribes. Federally reserved Indian fishing rights are vested property rights held in trust by the United States for the benefit of the Indians.

#### **WATER RIGHTS**

In addition to fish, the tribes have reserved rights to water. The concept of reserved rights in general, and Indian reserved water rights specifically, originated just after the start of the 20<sup>th</sup> century with *Winters v. United States*, 207 U.S. 564 (1908). The ruling in this case, commonly referred to as the Winters Doctrine, states that when the federal government established a reservation, it implicitly reserved a quantity of water necessary to fulfill the purpose of said reservation. The USDI Solicitor's office reaffirmed these rights with respect to Reclamation's activities, stating "Reclamation is obligated to ensure that project operations not interfere with the Tribes' senior water rights.

#### **RIGHTS TO WILDLIFE AND VEGETATION RESOURCES**

While the focus of the legal history surrounding Indian rights to resources has concentrated on water and fisheries, other resources, such as wildlife and vegetation, are also extremely important to the tribes, and the tribes have assessed that these resources are no less reserved. In the case of the HVT and YT, the decline in the health of the region's rivers has limited the availability of grasses and other plants important to traditional basketry, art, and medicine. Thus, while anadromous fish are the focus of the TRRP, other trust assets, such as vegetation, are embodied in the federal government's trust responsibility and, accordingly, need to be considered in the decision-making process.

#### **CULTURAL ENVIRONMENT**

Native uses of natural resources and the cultural significance of those resources have developed over many centuries, during the time that native people have lived in the heavily forested drainages of the Klamath and Trinity rivers and adjacent streams in northwestern California. Hunting, fishing, and gathering were the foundation of their societies. Tribes in the area included the Chilula, Hoopa Valley, Nongatl, Tsnungwe, and Whilkut, which spoke Athabascan languages; the Chimariko, Karuk, and Shasta, which spoke Hokan languages; the Wintun, which spoke a Penutian language; and the Wiyot and Yurok, which spoke Algonkian languages.

Some of these tribes, such as the Chilula, no longer exist. Others, including the Chimariko and Wintu, have not been officially recognized by the United States as a distinct and sovereign people.

Among the Indian peoples still present in the region, only the Hoopa Valley, Yurok, Karuk, and Klamath tribes have received this recognition.

Strong social, cultural, and economic ties have existed through history among the tribes of the Klamath/Trinity Basin, based in large part on a shared reliance on the region's rivers and associated resources, particularly salmon. This reliance extends well beyond subsistence and commerce to the cultural and social fabric of their societies, as evidenced by their traditional, ceremonial, and spiritual ways of life that focus and center on the rivers and the fish, wildlife, and vegetation they support. For Indians of the Klamath/Trinity Basin, the interaction and identification with the natural environment define their cultures, lifestyles, and religions; therefore, the degradation of the natural environment has had a profoundly devastating impact.

#### **PROPOSED PROJECT SITES**

Based on consultation between the tribes and Reclamation, the Proposed Project sites contain Trust assets, including fish, vegetation, and wildlife. Corresponding sections of this document provide discussions of these resources. While no specific use of these sites by the tribes has been identified, the Trinity River provides a valuable corridor that connects these resources to the HVT and YT.

### **3.17.2 Environmental Consequences/Impacts and Mitigation Measures**

The purpose of this section is to evaluate the potential impacts of the alternatives on tribal trust assets and the subsequent effects those impacts may have on the Indian tribes of the Klamath/Trinity Basin.

#### **3.17.2.1 Methodology**

While the project is aimed at improving the river's anadromous fisheries, an assessment of how project construction may actually affect the Indian trust assets of the HVT and YT must be performed, as directed in the USDI Departmental Manual (Part 512, Chapter 2), and Reclamation's Indian Trust Asset Policy. Toward this end, the Indian trust asset impact evaluation focuses on the potential effects of the rehabilitation activities described in Chapter 2 on the health of the Trinity River. Because the river's overall health is a primary factor in determining the availability of fish, the potential tribal trust impacts are not evaluated on an asset-by-asset basis.

#### **3.17.2.2 Significance Criteria**

Under CEQA, lead agencies are not explicitly required to consider projects' impacts on tribal trust assets as a distinct category of impacts. With its focus on the physical environment, CEQA requires agencies to focus on impacts to environmental resources, some of which, such as fish, wildlife, and water quality, would be indirectly related to tribal trust values. Therefore, the significance criteria applied in this evaluation of potential consequences on tribal trust assets are general and based on the potential for components of the Proposed Project to result in any modification of, or change in, the quantity or quality of tribal trust assets.

Although CEQA does not expressly require the application of specific significance criteria for potential impacts to Indian trust assets, federal lead agencies evaluating proposed actions under NEPA typically include the evaluation of potential impacts to Indian trust assets as a distinct category of impacts. Accordingly, this evaluation assessed the impacts of the proposed activities described in this document relative to any modification or change in the value, use, quantity, quality, or enjoyment of downstream Indian trust assets.

### 3.17.2.3 Impacts and Mitigation Measures

Table 29 summarizes potential impacts on Indian trust assets that would result from implementation of the proposed project.

<b>Table 29. Summary of Potential Tribal Trust Impacts for the No-Project and Proposed Project Alternatives</b>		
<b>No-Project Alternative</b>	<b>Proposed Project</b>	<b>Proposed Project With Mitigation</b>
Impact 3.17-1. Implementation of the project may reduce the quantity or quality of Tribal trust assets.		
No impact	Less than significant	Not applicable <sup>1</sup>

<sup>1</sup> Because this potential impact is less than significant, no mitigation is required.

Impact 3.17-1: Implementation of the proposed project may reduce the quantity or quality of Tribal trust assets.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, mechanical channel rehabilitation activities would not be implemented at the Proposed Project sites; therefore, no direct impact to Tribal trust assets would occur as a result of the project. However, implementation of other activities to improve the fishery and other resources of the mainstem Trinity River could still be undertaken. Thus, under the No-Project alternative, the overall benefits to Tribal trust assets gained through implementation of the overall TRRP would likely be achieved but the benefits associated with river rehabilitation at the Proposed Project sites would not be realized.

#### **PROPOSED PROJECT**

Under the Proposed Project the Trinity River would continue to support tribal trust assets. The short-term impacts described in sections pertaining to geology, fluvial geomorphology, and soils; water quality; fishery resources; and vegetation, wildlife, and wetlands would occur if the project is implemented. These impacts are expected to be short-term and to be outweighed by the overall benefits to Tribal trust assets gained through implementation of the overall TRRP and the Proposed Project. Therefore, this impact is less than significant.

### 3.18 Environmental Justice

Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," dated February 11, 1994, requires federal agencies to identify and address adverse human health or environmental effects of their actions on minorities and low-income populations and communities as well as the equity of the distribution of the benefits and risks of their decisions. Environmental justice addresses the fair treatment of people of all races and incomes with respect to actions affecting the environment. Fair treatment implies that no group of people should bear a disproportionate share of negative impacts from an environmental action.

To comply with the environmental justice policy established by the Secretary of the Interior, all USDI agencies are to identify and evaluate any anticipated effects, direct or indirect, from a project, action, or decision on minority and low-income populations and communities, including the equity of the distribution of the benefits and risks. Accordingly, this section examines the anticipated impacts of the Proposed Project with respect to potentially affected minority and economically disadvantaged groups. Socioeconomic issues, including population and housing, are evaluated in

this document in Section 3.8, Socioeconomics. This section does not function as part of the IS portion of this joint document, because CEQA does not require state or local agencies to address environmental justice concerns in an IS.

### **3.18.1 Affected Environment/Environmental Setting**

The Trinity River is a valuable economic resource for Trinity County. Its popularity as a recreation destination, particularly for fishing, white-water recreation, gold panning, and as an access point to the Salmon-Trinity Alps, directly benefits communities such as Lewiston, Douglas City, and Junction City through increased business patronage. Businesses benefit during peak recreation-use periods (e.g., rafting, kayaking, and fishing). Other economic opportunities such as agriculture are severely limited by the surrounding topography; thus, minimizing the attraction for a transitional labor pool.

The U.S. Census uses a set of income limits that vary by family size and composition to determine who is in poverty. If a family's total income is less than the income limit, then that family, and every individual in it, is considered to be in poverty. Poverty income level thresholds are nationwide standards set by the Census. The formula for the poverty rate is the number of persons below the poverty level divided by the number of persons for whom poverty status is determined. In 2009, 18.2 percent of the population in Trinity County was living in poverty compared to 14.2 percent for the state of California as a whole. The 2009 median household income for Trinity County was \$33,546, compared to the median California income of \$58,925 (U.S. Census Bureau 2011).

In 2010 the vast majority of the population in Trinity County (approximately 87 percent) consisted of white individuals (U.S. Census Bureau 2011). The largest minority population in the county is Hispanic. In 1990, the Hispanic population was 3.3 percent of the county's total population. By 2010, the percentage had increased to 7.0 percent of the total, compared to 37.6 percent in California as a whole. The American Indian population constitutes the next largest minority group. In 2010, American Indians constituted 4.8 percent of the total county population, compared to 1 percent for California (U.S. Census Bureau 2011). The percentage of black and Asian residents in the county is small (each less than 1 percent).

Census statistics are not available for Junction City. However, statistics are available for the zip code (96048) that includes Junction City (U.S. Census Bureau 2000). The Junction City community is predominately white (91.7 percent) (U.S. Census Bureau 2000). The proportion of individuals living below the poverty level for this area (12.7 percent) is similar to the balance of the United States (12.4 percent) (U.S. Census Bureau 2000). Census statistics are also available for the zip code (96024) that includes Douglas City (U.S. Census Bureau 2008). This community is predominately white (90.4 percent) and, according to the 2000 census, the proportion of people in this area living below the poverty level (18.0 percent) is higher than for the balance of the United States (12.4 percent).

### **3.18.2 Environmental Consequences/Impacts and Mitigation Measures**

#### **3.18.2.1 Methodology**

The EPA compares three factors—minority representation, low-income representation, and environmental burden—for a community of concern and one or more reference areas—for example,

an entire county—to analyze potential environmental justice impacts. A community of concern can be defined in a number of ways, including a municipality, a census block group, a user-defined radius around a source of pollution, or a boundary drawn along physical features such as streets, streams, or railroad tracks. The demographic data for the community of concern can then be analyzed to determine whether there would be a potential environmental justice concern in the area. As part of this analysis, poverty levels and minority population levels were examined for Trinity County as a whole and for the residential areas associated with Junction City and Douglas City, although only a limited amount of information was available for those areas.

### 3.18.2.2 Significance Criteria

Because environmental justice is not a CEQA issue, specific significance criteria were not applied in evaluating potential environmental justice consequences. Instead, any modification or change in environmental justice factors that would occur in response to the Proposed Project is evaluated in accordance with NEPA requirements.

### 3.18.2.3 Impacts and Mitigation Measures

Table 30 summarizes the potential environmental justice impacts that would result from implementation of the project.

<b>Table 30. Summary of Potential Environmental Justice Impacts for the No-Project and Proposed Project Alternatives</b>		
<b>No-Project Alternative</b>	<b>Proposed Project</b>	<b>Proposed Project with Mitigation</b>
Impact 3.18-1. Implementation of the project could adversely affect a minority or low-income population and/or community.		
No impact	Less than significant	Not applicable <sup>1</sup>

<sup>1</sup> Because this potential impact is less than significant, no mitigation is required.

Impact 3.18-1: Implementation of the proposed project could adversely affect a minority or low-income population and/or community.

#### **NO-PROJECT ALTERNATIVE**

Under the No-Project alternative, no impact to a minority or low-income population or community would occur because the project would not be constructed. Therefore, there would be no impact.

#### **PROPOSED PROJECT**

Although minority and low-income residents live in the vicinity of the project, the impacts would generally be experienced by residents in relationship to their proximity to the sites, regardless of their racial or income characteristics. There is no evidence to suggest that the project would cause a disproportionately high adverse human health or environmental effect on minority and low-income populations compared to other area residents. The known health risks to residents that could be associated with the project are evaluated in the Water Quality, Air Quality, Hazardous Materials, and Noise sections of this document. For the most part, these health risks are associated with construction aspects of the project, in that residents and construction workers could be exposed to hazardous materials that may be associated with the project. Possible health risks also include construction-related accidents. Reclamation would manage the project to minimize these risks, as required by applicable federal and state safety regulations. Therefore, no disproportionate or specific health risks or other impacts to low-income groups would be associated with the project.

## Chapter 4

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### **4 CUMULATIVE EFFECTS AND OTHER CEQA AND NEPA CONSIDERATIONS**

This EA/IS tiers from the “statutory considerations” discussion in the Trinity River Master EIR (Chapters 5 and 8). These discussions cover certain topics required under CEQA, such as cumulative impacts, the significant environmental effects of the Proposed Project, the significant effects that cannot be avoided if the Proposed Project is implemented, and growth-inducing effects of the project. Additional discussions are also required under NEPA, such as the significant irreversible and irretrievable commitments of resources and the relationship between local short-term uses of the environment and the maintenance of long-term productivity. These considerations are summarized below; see the Trinity River Master EIR for complete discussions of these topics.

#### **4.1 Cumulative Impacts**

The regulatory framework for the assessment of cumulative impacts under CEQA is discussed in Chapter 5, Section 5.2.1, of the Trinity River Master EIR, and the regulatory framework for NEPA is discussed in Chapter 8, Section 8.2.1. Under the CEQA Guidelines (Section 15355), the term “cumulative impacts” refers to two or more individual impacts that, when considered together, are considerable or that otherwise compound or increase other environmental effects. Cumulative environmental impacts arise from the incremental impacts of the Proposed Project when added to other closely related past, present, and reasonably foreseeable future projects.

The CEQ NEPA implementing regulations (40 CFR 1508.7) state that cumulative impacts result from the incremental impact of a proposed action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) undertakes the other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

##### **4.1.1 Methodology and Analysis**

The methodology for the cumulative impact analysis in this document is described in section 5.2.2 of the Trinity River Master EIR. As discussed in that section, the methodology involved the assessment of the potential cumulative effects of the Proposed Project when considered in combination with a list of related projects within a defined geographical area. This assessment of cumulative impacts is considered in the same cumulative context—i.e., using the same list of related projects and programs and within the project boundaries.

The issue-specific analysis of cumulative impacts in Chapter 5 of the Trinity River Master EIR identifies the potential cumulative impacts related to the Remaining Phase 1 and Phase 2 sites for a variety of resource areas. Because activity will occur within the Lower Junction City site boundary both as part of this project and when the Lower Junction City Rehabilitation Site project occurs at some point in the future, there is the potential for cumulative impacts in that location. The fact that the two projects will occur at different times and that mitigation measures will be implemented as

part of both projects, will reduce the potential for cumulative impacts. Other than in that location, no additional cumulative impacts have been identified that are specific only to the Proposed Project sites. The previous issue-specific analysis in Chapter 5 sufficiently addresses the cumulative impacts of the Proposed Project, and no substantial differences arise in consideration of the Proposed Project separately. Table 31 summarizes the cumulative impact findings.

<b>Table 31. Summary of Cumulative Impacts Findings from the Trinity River Master EIR</b>	
Land Use	Implementation of the Proposed Project, in combination with other related projects, would not have a cumulative impact in terms of planning policies, nor would river rehabilitation activities result in cumulative effects in terms of local or federal land use planning policies.
Geology, Fluvial Geomorphology, and Soils	No significant cumulative impacts associated with geologic hazards, geomorphic processes, or erosional processes are anticipated to occur as a result of implementation of the Proposed Project in combination with other related projects. Appropriate implementation of prescribed mitigation measures would reduce potential impacts to a less-than-significant level.
Water Resources	Implementation of the Proposed Project in combination with other river rehabilitation activities would not have cumulatively considerable impacts on beneficial uses of the river or result in changes in the quantities of water available for any of those uses.
Water Quality	No significant cumulative impacts to water quality are anticipated to occur as a result of implementation of the Proposed Project in combination with other related projects. Individually, these activities would result in short-term, temporary effects on water quality. Appropriate implementation of prescribed mitigation measures would reduce potential impacts to a less-than-significant level.
Fishery Resources	No significant, adverse, cumulative impacts to fisheries resources are anticipated to occur as a result of the implementation of the Proposed Project. The effect of the Proposed Project, in conjunction with other projects and programs, is expected to be beneficial in terms of the rehabilitation of habitat and fisheries resources. Implementation of the Proposed Project as mitigated would benefit, rather than adversely affect, fishery resources of the Trinity River in the long term.
Vegetation, Wildlife, and Wetlands	No significant cumulative impacts to vegetation, wildlife, and wetlands are anticipated to occur as a result of implementation of the Proposed Project in combination with other related projects. The project as mitigated would benefit, rather than adversely affect, vegetation, wildlife, and wetlands in the long term, as would most of the other related projects and programs. Implementation of the Proposed Project would contribute to long-term ecological benefits in terms of vegetation, wildlife, and wetlands.
Recreation	No significant cumulative impacts to recreational resources are anticipated to occur as a result of implementation of the Proposed Project in combination with other related projects. Benefits to recreational values may be achieved through the implementation of the TRRP over time.
Socioeconomics, Population, and Housing	No significant cumulative impacts to socioeconomics, population, and housing are anticipated to occur as a result of implementation of the Proposed Project. The related projects and programs described in the cumulative effects analysis in the Trinity River Master EIR are intended to benefit the Trinity River fishery, with moderate projected economic and social benefits to the residents and communities along the Trinity River.
Cultural Resources	No significant cumulative impacts to cultural resources are anticipated to occur as a result of implementation of the Proposed Project. Appropriate implementation of prescribed mitigation measures (e.g., surveys of potential impact areas by a professional archaeologist prior to construction, protection of potentially significant cultural sites, and coordination with local tribes), in coordination with the SHPO, would adequately mitigate for potential impacts, including cumulative impacts.

Air Quality	No significant cumulative impacts to air quality are anticipated to occur as a result of implementation of the Proposed Project. The NCUAQMD requirements would be addressed by implementation of prescribed mitigation measures. The Proposed Project, in conjunction with the other projects and programs occurring within the Trinity River basin, would contribute cumulatively to global climate change. Thus, the Proposed Project would contribute to an adverse cumulative contribution to global climate change. Implementation of mitigation measures would reduce the cumulative contribution to global climate change to a less-than-significant level.
Aesthetics	No significant cumulative impacts to aesthetics are anticipated to occur as a result of implementation of the Proposed Project. Implementation of the Proposed Project would benefit, rather than adversely affect, aesthetics in the long term, as would most of the other related projects described in the cumulative effects analysis in the Trinity River Master EIR.
Hazardous Materials	No significant cumulative impacts related to hazardous materials are anticipated as a result of implementing the Proposed Project in combination with other related projects.
Noise	No significant cumulative impacts related to noise are anticipated through implementation of the Proposed Project in combination with other projects. Reclamation would coordinate the implementation of other restoration projects to ensure that construction noise is minimized through project scheduling.
Public Services and Utilities/Energy	No significant cumulative impacts related to public services and utilities/energy are anticipated as a result of implementation of the Proposed Project in combination with other related projects. The rehabilitation activities are designed in ways that ensure that emergency services would not be disrupted; that public services (e.g., school bus routes) would not be adversely affected; and that waste material generated from project activities would be transported appropriately to authorized locations.
Transportation/Traffic Circulation	No significant cumulative impacts related to transportation/traffic circulation are anticipated through the implementation of the Proposed Project in combination with other related projects. Traffic increases would be localized and temporary.
Tribal Trust Assets	No significant cumulative impacts to Tribal trust assets are anticipated to occur as a result of implementation of the Proposed Project. The related projects and programs described in Chapter 5 of the Trinity River Master EIR, in combination with the Proposed Project, are expected to cumulatively result in beneficial effects to the Tribal trust assets, including the overall health of the Trinity River and its fishery resources.
Environmental Justice	No disproportionate environmental effects on minority or low-income populations have been identified for either the Remaining Phase 1 or Phase 2 sites, and no significant cumulative impacts to environmental justice are anticipated to occur as a result of the implementation of the Proposed Project. Implementation of the Proposed Project, in conjunction with the other related projects and programs described in Chapter 5 of the Trinity River Master EIR, is anticipated to provide a net benefit to the local communities by helping to restore the Trinity River's fishery resources.

## 4.2 Irreversible and Irretrievable Commitments of Resources

NEPA (Section 102) and the CEQ NEPA implementing regulations (40 CFR 1502.16), require a discussion of “any irreversible and irretrievable commitments of resources which would be involved in a Proposed Action should it be implemented.”

Section 15126.2(c) of the CEQA Guidelines also requires a discussion of the significant irreversible environmental changes that would result from the Proposed Project should it be implemented. This section of the CEQA Guidelines states:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway

improvements which provide access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The No-Project alternative would not directly involve the use of resources or cause significant irreversible environmental effects other than those previously described in the Trinity River FEIS/EIR (USFWS et al. 2000a) and incorporated by reference in other sections of this document.

Implementation of the Proposed Project would not involve the substantial use of nonrenewable resources in such a way that would result in conditions that would be irreversible though removal or nonuse thereafter. Future generations would not be committed to irreversible consequences or uses; the effect on future generations would be beneficial as a result of the enhanced and maintained river system and related fishery resources. No irreversible damage from environmental accidents would be foreseeable in association with the Proposed Project.

Implementation of the Proposed Project would result in the use of fossil fuels, a nonrenewable form of energy. A relatively minor amount of nonrenewable resources would be used in the mechanical rehabilitation of the river channel, transport of gravel, and related construction and management activities at the rehabilitation. The material requirements for this project would be relatively minor compared to the overall demand for such materials, and the use of these materials would not have a significant adverse effect on their continued availability.

#### **4.3 Relationship between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity**

Section 102 of the CEQ NEPA Regulations and CFR 1501.16 require that an environmental document include a discussion of “the relationship between local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity.” This discussion was included in Section 8.4 of the Trinity River Master EIR.

The Proposed Project does not involve a trade-off between a “local short-term use” of the environment and the maintenance and enhancement of the environment in the sense contemplated by NEPA. Implementation of the Proposed Project is intentionally aimed at maintaining and enhancing the long-term biological and environmental productivity of the river system. Implementation of the Proposed Project would not sacrifice the long-term productivity of the sites for short-term uses during construction.

The short-term impacts on the environment associated with implementation of the Proposed Action are considered minimal compared to the long-term benefits and productivity that would result from the Proposed Action in conjunction with other objectives of the TRRP. Construction-related impacts and land use conflicts would be short-term, occurring only during the construction phase of the project. While such impacts are considered significant (in a CEQA sense), they would be mitigated to less-than-significant levels.

#### **4.4 Growth-Inducing Impacts**

Section 5.3 of the Trinity River Master EIR evaluated the potential for growth that could be induced by implementation of the Proposed Project and assessed the level of significance of any expected

growth inducement. Under CEQA, growth itself is not assumed to be particularly beneficial, detrimental, or insignificant to the environment. If a project is determined to be growth inducing, an evaluation is made to determine whether significant impacts on the physical environment would result from that growth.

Implementation of channel rehabilitation activities and sediment management activities at the Proposed Project sites would not remove any constraints to development, create new or improved infrastructure, or otherwise create conditions that would induce growth. The Proposed Project would improve habitat for anadromous fish and, thus, improve conditions for fishing and recreation; however, the improved fishery resources resulting from implementation of the Proposed Project are not likely to directly or indirectly result in substantial development or population growth. Therefore, implementation of the Proposed Project would not result in a significant growth-inducing impact.

#### **4.5 Environmental Commitments and Mitigation Measures**

Reclamation's NEPA implementation guidance recommends that a list of environmental commitments for the preferred alternative be included in an EA. The list should contain all mitigation measures and management actions that are incorporated in the project as part of the proposal. Because this document is a joint NEPA/CEQA document, mitigation measures have been identified for potentially significant impacts in compliance with CEQA requirements. Under CEQA, lead agencies are required to adopt a program for monitoring or reporting on the revisions that they required be made part of the project and other measures required to mitigate or avoid significant environmental effects. The MMRP for implementation of the Proposed Project complies with Reclamation's practice to include a list of environmental commitments in an EA/IS. The MMRP is included as Appendix E of the Trinity River Master EIR. A site specific MMRP for the Proposed Project is included as Appendix A of this document.

#### **4.6 Significant Effects**

CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible (CEQA Guidelines Section 15021), and determinations of significance play a critical role in the CEQA process (CEQA Guidelines 15064). Section 5.4 of the Trinity River Master EIR addresses several types of potentially significant effects.

Potentially significant effects have been identified in the areas of geology, geomorphology, soils, and minerals; water quality; fishery resources; vegetation, wildlife, and wetlands; recreation; cultural resources; air quality; aesthetics; noise; public services and utilities; and traffic and transportation. These potential effects are discussed in each resource. As part of the environmental impact assessment for each resource area, mitigation measures have been identified that reduce these impacts to less-than-significant levels. The environmental analysis conducted for the Proposed Project did not identify any effects that, after mitigation, remained significant and therefore unavoidable; no significant irreversible effects were identified associated with the Proposed Project.

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## **APPENDIX A – MITIGATION MONITORING AND REPORTING PROGRAM AND PROJECT DESIGN ELEMENTS**

### **Trinity River Channel Rehabilitation Sites: Lower Steiner Flat (River Mile 90.2-91.3) and Upper Junction City (River Mile 79.8-80.4)**

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**February 2012**

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# Mitigation Monitoring and Reporting Program

## Introduction

The first part of this document comprises the Mitigation Monitoring and Reporting Program (MMRP) for the Trinity River Channel Rehabilitation Sites: Lower Steiner Flat (River Mile 90.2-91.3) and Upper Junction City (River Mile 79.8-80.4) Project (the Proposed Project). The purpose of providing the MMRP as an appendix is to facilitate its use as a stand-alone document, which clearly expresses to the reader the mitigation responsibilities of the Bureau of Reclamation (Reclamation), and Regional Water Quality Control Board – North Coast Region (Regional Water Board) in implementing the project. The mitigation measures listed herein, which are an updated version of those included within the Master EIR (NCRWQCB and USBR 2009), are required by law or regulation and will be adopted by the Regional Water Board when it issues its Notice of Applicability for the project. The second part of this document is comprised of project design elements that shall be implemented as part of the Proposed Project. In general, Chapter 3 mitigation measures in this EA/IS correspond to Chapter 4 mitigation measures in the Master EIR. Consequently, Master EIR numeric mitigation measure coding corresponds to mitigation measures that are numerically one integer less than in this document. For example, Master EIR mitigation measure 4.5-1a corresponds to this document's 3.5-1a. While numerically different, the Appendix A mitigation measures in this EA/IS, are meant to mitigate the same impacts as those identified in the Master EIR. Consequently, these mitigation measures are only different to the extent necessary to tailor the mitigation measures to the site specific conditions.

Mitigation is defined by the California Environmental Quality Act (CEQA) – Section 15370 as a measure which:

- Avoids the impact altogether by not taking a certain action or parts of an action
- Minimizes impacts by limiting the degree or magnitude of the action and its implementation
- Rectifies the impact by repairing, rehabilitating, or restoring the impacted environment
- Reduces or eliminates the impact over time by preservation and maintenance operations during the life of the project
- Compensates for the impacts by replacing or providing substitute resources or environments

The mitigation program identified in the MMRP to reduce potential project impacts consists of mitigation measures, project design elements, and construction criteria and methods.

Mitigation measures provided in this MMRP have been identified in Chapter 3, Affected Environment and Environmental Consequences of the Proposed Project EA/IS, as feasible and effective in mitigating project-related environmental impacts. This MMRP includes discussion of the following: legal requirements, intent of the MMRP, development and approval process for the MMRP, the authorities and responsibilities associated with the implementation of the MMRP, a description of the mitigation summary table, project design elements, construction criteria and methods, and resolution of noncompliance complaints.

## **Legal Requirements**

The legal basis for the development and implementation of the MMRP lies within CEQA (including the California Public Resources Code). Sections 21002 and 21002.1 of the California Public Resources Code state:

- Public agencies are not to approve projects as proposed if there are feasible alternatives or feasible mitigation measures available that would substantially lessen the significant environmental effects of such projects; and
- Each public agency shall mitigate or avoid the significant effects on the environment of projects that it carries out or approves whenever it is feasible to do so.
- Section 21081.6 of the California Public Resources Code further requires that: the public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation.
- The monitoring program must be adopted when a public agency makes its findings under CEQA so that the program can be made a condition of project approval in order to mitigate significant effects on the environment. The program must be designed to ensure compliance with mitigation measures during project implementation to mitigate or avoid significant environmental effects.

## **Intent of the Mitigation Monitoring and Reporting Program**

The MMRP is intended to satisfy the requirements of CEQA as they relate to the project. It is anticipated to be used by Reclamation and Regional Water Board staff, participating agencies, project contractors, and mitigation monitoring personnel during implementation of the project.

The primary objective of the MMRP is to ensure the effective implementation and enforcement of adopted mitigation measures and permit conditions. The MMRP will provide for monitoring of construction activities as needed, on-site identification and resolution of environmental problems, and proper reporting to lead agency staff.

## **Development and Approval Process**

The timing elements for implementing mitigation measures and the definition of the approval process have been provided in detail through this MMRP to assist staff from Reclamation and the Regional Water Board by providing the most usable monitoring document possible.

## **Authorities and Responsibilities**

As the project proponent, Reclamation, functioning as the TRRP, will have the primary responsibility for the execution and proper implementation of the MRRP. The Regional Water Board may provide Reclamation with support, as warranted. Reclamation will be responsible for the following activities:

- Coordination of monitoring activities
- Management of the preparation and filing of monitoring compliance reports
- Maintenance of records concerning the status of all approved mitigation measures

## Summary of Monitoring Requirements

Table A-1, which follows, summarizes the mitigation measures and associated monitoring requirements for the Proposed Project. The mitigation measures are organized by environmental issue area (i.e., Soils, Water Quality, etc.). Table A-1 is composed of the following four columns:

- **Mitigation Measure:** Lists the mitigation measures identified for each significant impact discussed in the Draft EA/IS for the project. The mitigation numbering system used in the Draft MEIR/Draft EIR is carried forward in this MMRP.
- **Timing/Implementation:** Indicates at what point in time or project phase the mitigation measure will need to be implemented.
- **Responsible Parties (tasks):** Documents which agency or entity is responsible for implementing a mitigation measures and what, if any, coordination is required (e.g., approval from Caltrans). If more than one party has responsibility under a given mitigation measure, the tasks of each individual party is identified parenthetically (e.g., “implementation” or “monitoring”).
- **Verification:** Provides spaces to be initialed and dated by the individual responsible for verifying compliance with each specific mitigation measure.

## Resolution of Noncompliance Complaints

Any person or agency may file a complaint that states noncompliance with the mitigation measures that were adopted as part of the approval process for the project. The complaint shall be directed to Reclamation at the TRRP office (P.O. Box 1300, 1313 South Main Street, Weaverville, CA 96093) and to the Regional Water Board at 5550 Skylane Boulevard, Suite A, Santa Rosa, California, 95403, in written form, providing detailed information on the purported violation. Reclamation and the Regional Water Board shall conduct an investigation and determine the validity of the complaint. If noncompliance with a mitigation measure is verified, Reclamation shall take the necessary action(s) to remedy the violation. The complainant shall receive written confirmation indicating the results of the investigation or the final corrective action that was implemented in response to the specific noncompliance issue.

**Table A-1. Summary of Mitigation Monitoring Requirements**

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
<b>3.3 Geology, Fluvial Geomorphology, and Soils</b>			
<b>Impact 3.3-2: Construction activities associated with the Proposed Project could result in increased erosion and short-term sedimentation of the Trinity River.</b>			
<b>4.3-2a</b> Reclamation will implement the following measures during construction activities: <ul style="list-style-type: none"> <li>• Areas where ground disturbance will occur will be identified in advance of construction and limited to only those areas that have been approved by Reclamation.</li> <li>• All vehicular construction traffic will be confined to the designated access routes and staging areas.</li> <li>• Disturbance will be limited to the minimum necessary to complete all rehabilitation activities.</li> <li>• All supervisory construction personnel will be informed of environmental concerns, permit conditions, and final project specifications.</li> </ul>		Reclamation (implementation) Regional Water Board (SWPPP review and approval) BLM (SWPPP review)	
<b>4.3-2b</b> Reclamation will prepare an erosion and sedimentation control plan (Storm Water Pollution Prevention Plan [SWPPP]). Measures for erosion control will be prioritized based on proximity to the river. Reclamation will provide the SWPPP for review by associated agencies (e.g., BLM, the Regional Water Board, NMFS, and CDFG) upon request. Reclamation's project manager will ensure the preparation and implementation of an erosion and sediment control plan prior to the start of construction. The following measures will be used as a guide to develop this plan: <ul style="list-style-type: none"> <li>• Restore disturbed areas to pre-construction contours to the fullest extent feasible.</li> <li>• Salvage, store, and use the highest quality soil for revegetation.</li> <li>• Discourage noxious weed competition and control noxious weeds.</li> <li>• Clear or remove roots from steep slopes immediately prior to scheduled construction.</li> <li>• Leave drainage gaps in topsoil and spoil piles to accommodate surface water runoff.</li> <li>• To the fullest extent possible, cease excavation activities during significantly wet or windy weather.</li> <li>• Use bales, wattles, and/or silt fencing as appropriate.</li> <li>• Before seeding disturbed soils, work the topsoil to reduce compaction caused by construction vehicle traffic.</li> <li>• Rip feathered edges (and floodplain surfaces where appropriate) to approximately 18 inches deep. The furrowing of the river's edge will remove plant roots to allow mobilization of the bed, but will also intercept sediment before it reaches the waterway.</li> <li>• Spoil sites will be located such that they do not drain directly into a surface water feature, if possible. If a spoil site will drain into a surface water feature, catch basins will be constructed to intercept sediment before it reaches the feature. Spoil sites will be graded and vegetated to reduce the potential for erosion.</li> <li>• Sediment control measures will be in place prior to the onset of the rainy season to ensure that surface water runoff does not occur. Project areas will be monitored and maintained in good</li> </ul>			

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
working condition until disturbed areas have been seeded and mulched or revegetated in another fashion. If work activities take place during the rainy season, erosion control structures will be in place and operational at the end of each construction day.			
<b>Impact 3.3-3: Implementation of the Proposed Project would interfere with existing, proposed, or potential development of mineral resources.</b>			
<b>4.3-3a</b> Reclamation will implement the following measures during construction: <ul style="list-style-type: none"> <li>• Areas where ground disturbance will occur will be identified in advance of construction and limited to only those areas that have been approved by Reclamation.</li> <li>• All vehicular construction traffic will be confined to the designated access routes and staging areas.</li> <li>• Disturbance will be limited to the minimum necessary to complete all rehabilitation activities.</li> <li>• All supervisory construction personnel will be informed of environmental concerns, permit conditions, and final project specifications.</li> </ul>		Reclamation (implementation)	
<b>4.3-3b</b> Reclamation will prepare a SWPPP as stipulated in Mitigation Measure 4.2-2b.			
<b>4.3-3c</b> Reclamation will coordinate with private land owners and owners of active mining claims to discuss future mining plans and develop site-specific measures that can be implemented to avoid or lessen project-related impacts to mineral resources associated with the Trinity River and its tributaries.			
<b>4.5 Water Quality</b>			
<b>Impact 3.5-1: Construction of the proposed project could result in short-term, temporary increases in turbidity and total suspended solids levels during construction.</b>			
<b>4.5-1a</b> The water quality objective for turbidity levels in the Trinity River, as listed in the Basin Plan for the North Coast Region (North Coast Regional Water Quality Control Board 2007), is summarized below. <ul style="list-style-type: none"> <li>• Turbidity levels will not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.</li> <li>• Due to the nature of the proposed restoration activities and the clarity of the Trinity River during low flow conditions, the Regional Water Board has determined that an allowable zone of turbidity dilution is appropriate and necessary in order for Trinity River restoration activities to be accomplished in a meaningful, timely, and cost-effective manner that fully protects beneficial uses without resulting in a violation of the water quality objective for turbidity.</li> <li>• Project activities that occur in areas outside of the active river channel will not increase turbidity levels by more than 20 percent above naturally occurring background levels. During in-river construction activities and until the first extended period of post-construction high flow (i.e., flows of at least 6,000 cfs inundate the project areas and floodplain for a minimum of 7 days) a zone of turbidity dilution within which higher percentages will be tolerated will be defined in discharge permits as the full width of the river channel within 500 linear feet downstream of any project activity that increases naturally occurring background levels, provided that all other required</li> </ul>			

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
controls and appropriate BMPs for sediment and turbidity control are in place and downstream beneficial uses are also fully protected. When naturally occurring background levels are less than or equal to 20 NTUs, turbidity levels immediately downstream of the zone of turbidity dilution shall not exceed 20 NTUs. If naturally occurring background levels are greater than 20 NTUs, turbidity levels immediately downstream of the 500 linear foot zone of dilution shall not be increased by more than 20 percent above the naturally occurring background level.			
<b>4.5-1b</b> To ensure that turbidity levels do not exceed the thresholds described above (4.4-1a) during in-river project construction activities, Reclamation shall monitor turbidity levels upstream within 50 feet of project activities (i.e., natural background) and 500 feet downstream of the in-river construction activities that could increase turbidity. At a minimum, field turbidity measurements shall be collected whenever a visible increase in turbidity is observed. Monitoring frequency shall be a minimum of every two hours during in-river work periods and when activities commence that are likely to increase turbidity levels above any previously monitored levels. If grab sample results indicate that turbidity levels exceed 20 NTU at 500 feet downstream from construction activities, remedial actions will be implemented to reduce and maintain turbidity at or below 20 NTU immediately downstream of the 500 linear foot zone of dilution. Potential remedial actions include halting or slowing construction activities and implementation of additional BMPs until turbidity levels are at or below 20 NTU.			
<b>4.5-1c</b> Fill gravels used on the streambeds, stream banks, and river crossings will be composed of washed, spawning-sized gravels from a local Trinity River Basin source. Gravel will be washed to remove any silts, sand, clay, and organic matter and will be free of contaminants such as petroleum products. Washed gravel will pass Caltrans cleanliness test #227 with a value of 85 or greater.			
<b>4.5-1d</b> Reclamation will prepare and implement a SWPPP that describes BMPs for the project, including silt fences, sediment filters, and routine monitoring to verify effectiveness. Proper implementation of erosion and sediment controls will be adequate to minimize sediment inputs into the Trinity River until vegetation regrowth occurs. All required controls and BMPs, including sediment and erosion control devices, will be inspected daily during the construction period to ensure that the devices are properly functioning. Excavated and stored materials will be kept in upland activity areas with erosion control properly installed and maintained. Excavated and stored materials will be staged in stable upland activity areas. All applicable erosion control standards will be required during stockpiling of materials.			
<b>4.5-1e</b> To minimize the potential for increases in turbidity and suspended sediments entering the Trinity River as a result of access routes (e.g., roads), Reclamation will implement the following protocols: <ul style="list-style-type: none"> <li>Keep bare soil to the minimum required by designs. Erosion control devices/measures will be applied to areas where vegetation has been removed as needed to reduce short-term erosion prior to the start of the rainy season.</li> <li>Keep runoff from bare soil areas well dispersed. Dispersing runoff keeps sediment on-site and</li> </ul>			

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
<p>prevents sediment delivery to streams. Direct any concentrated runoff from bare soil areas into natural buffers of vegetation or areas with more gentle slopes where sediment can settle out.</p> <ul style="list-style-type: none"> <li>• Disconnect and disperse flow paths, including roadside ditches, that might otherwise deliver fine sediment to stream channels or other water bodies.</li> <li>• Decompact or rip floodplain areas so that surfaces are permeable and no surface water runoff occurs.</li> </ul>			
<b>Impact 3.5-2: Construction of the proposed project could result in short-term, temporary increases in turbidity and total suspended solids levels following construction.</b>			
<b>4.5-2a</b> Turbidity increases associated with project activities will not exceed the water quality objectives for turbidity in the Trinity River Basin (North Coast Regional Water Quality Control Board 2007).			
<p><b>4.5-2b</b> To ensure that turbidity levels do not exceed the threshold following construction, Reclamation will monitor turbidity and total suspended solids during and after representative rainfall events to determine the effect of the project on Trinity River water quality. At a minimum, field turbidity measurements will be collected whenever a visible increase in turbidity is observed.</p> <ul style="list-style-type: none"> <li>• If increases in turbidity and total suspended solids are observed as a result of erosion from constructed features, field turbidity measurements will be collected 50 feet upstream of a point adjacent to the end of the feature and 500 feet downstream of the feature.</li> <li>• If the grab sample indicates that turbidity levels exceed the established thresholds identified in the Basin Plan, the Regional Water Board will be notified. The need to implement erosion control measures for turbidity that is expected to result from overland river flows (versus surface run-off) will be evaluated with Regional Water Board staff to determine if remediation measures are needed.</li> </ul>			
<p><b>4.5-2c</b> To reduce the potential for the access routes to continually contribute soil materials to the Trinity River following project construction, thereby increasing turbidity and total suspended solids in the river, these routes will be stabilized or decommissioned upon completion of work in those areas consistent with the requirements outlined in at the end of this appendix (Design Elements and Construction Criteria). Decommissioning is defined as removing those elements of a road that reroute hillslope drainage and present slope stability hazards.</p>			
<b>Impact 3.5-3: Construction of the proposed project could cause contamination of the Trinity River from hazardous materials spills.</b>			
<b>4.5-3a</b> Reclamation will prepare and implement a spill prevention and containment plan in accordance with applicable federal and state requirements.			
<b>4.5-3b</b> Reclamation will ensure that any construction equipment that will come in contact with the Trinity River be inspected daily for leaks prior to entering the flowing channel. External oil, grease, and mud will be removed from equipment using steam cleaning. Untreated wash and rinse water will be adequately treated prior to discharge if that is the desired disposal option.			

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
<b>4.5-3c</b> Reclamation will ensure that hazardous materials, including fuels, oils, and solvents, not be stored or transferred within 150 feet of the active Trinity River channel. Areas for fuel storage, refueling, and servicing will be located at least 150 feet from the active river channel or within an adequate secondary fueling containment area. Gas pumps and engines will be stored and maintained on impermeable barriers so that any leaking petroleum products are isolated from the ground. In addition, the construction contractor will be responsible for maintaining spill containment booms onsite at all times during construction operations and/or staging of equipment or fueling supplies. Fueling trucks will maintain a spill containment boom at all times.			
<b>Impact 3.5-5: Construction and maintenance of the proposed project could result in the degradation of Trinity River beneficial uses identified in the Basin Plan.</b>			
Water quality Mitigation Measures 4.5-1a, 4.5-1b, 4.5-1c, 4.5-1d, 4.5-1e, 4.5-2a, 4.5-2b, 4.5-2c, 4.5-3a, 4.5-3b, and 4.5-3c described above shall be implemented to protect the beneficial uses of the Trinity River.			
<b>3.6 Fishery Resources</b>			
<b>Impact 3.6-1: Implementation of the proposed project could result in effects on potential spawning and rearing habitat for anadromous fishes, including the federally and state-listed coho salmon.</b>			
<b>4.6-1a</b> The proposed construction schedule avoids in-channel work during the period in which it could affect spawning spring- and fall-run chinook salmon, coho salmon, and steelhead or their embryos once in the gravel. As directed by the 2000 Biological Opinion (National Marine Fisheries Service 2000), Reclamation will ensure that all in-channel construction activities are conducted during late-summer, low-flow conditions (e.g., July 15-September 15).		Reclamation (implementation)	
<b>4.6-1b</b> Alluvial material used for coarse sediment additions will be composed of washed, spawning-sized gravels (3/8- to 5-inches diameter) from a local Trinity River Basin source. Gravel will be washed to remove any silts, sand, clay, and organic matter; will be free of contaminants, such as petroleum products; and will pass Caltrans cleanliness test #227 with a value of 85 or greater.			
<b>Impact 3.6-2: Implementation of the proposed project could result in increased erosion and sedimentation levels that could adversely affect fishes, including the federally and state-listed coho salmon.</b>			
<b>4.6-2a</b> The water quality objective for turbidity levels in the Trinity River, as listed in the Basin Plan for the North Coast Region (North Coast Regional Water Quality Control Board 2007), is summarized below. <ul style="list-style-type: none"> <li>• Turbidity levels shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.</li> <li>• Due to the nature of the proposed restoration activities and the clarity of the Trinity River during low flow conditions, the Regional Water Board has determined that an allowable zone of turbidity dilution is appropriate and necessary in order for Trinity River restoration activities to be accomplished in a meaningful, timely, and cost-effective manner that fully protects beneficial uses without resulting in a violation of the water quality objective for turbidity.</li> </ul>			

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
<ul style="list-style-type: none"> <li>Project activities that occur in areas outside of the active river channel will not increase turbidity levels by more than 20 percent above naturally occurring background levels. During in-river construction activities and until the first extended period of post-construction high flow (i.e., flows of at least 6,000 cfs inundate the project areas and floodplain for a minimum of 7 days) a zone of turbidity dilution within which higher percentages will be tolerated will be defined in discharge permits as the full width of the river channel within 500 linear feet downstream of any project activity that increases naturally occurring background levels, provided that all other required controls and appropriate BMPs for sediment and turbidity control are in place and downstream beneficial uses are also fully protected. When naturally occurring background levels are less than or equal to 20 NTUs, turbidity levels immediately downstream of the zone of turbidity dilution shall not exceed 20 NTUs. If naturally occurring background levels are greater than 20 NTUs, turbidity levels immediately downstream of the 500 linear foot zone of dilution shall not be increased by more than 20 percent above the naturally occurring background level.</li> </ul>			
<p><b>4.6-2b</b> To ensure that turbidity levels do not exceed the thresholds described above (4.6-2a) during in-river project construction activities, Reclamation shall monitor turbidity levels upstream within 50 feet of project activities (i.e., natural background) and 500 feet downstream of the in-river construction activities that could increase turbidity. At a minimum, field turbidity measurements shall be collected whenever a visible increase in turbidity is observed. Monitoring frequency shall be a minimum of every two hours during in-river work periods and when activities commence that are likely to increase turbidity levels above any previously monitored levels.</p> <p>If grab sample results indicate that turbidity levels exceed 20 NTU at 500 feet downstream from construction activities, remedial actions will be implemented to reduce and maintain turbidity at or below 20 NTU immediately downstream of the 500 linear foot zone of dilution. Potential remedial actions include halting or slowing construction activities and implementation of additional BMPs until turbidity levels are at or below 20 NTU.</p>			
<p><b>4.6-2c</b> Fill gravels used on the streambeds, stream banks, and river crossings will be composed of washed, spawning-sized gravels from a local Trinity River Basin source. Gravel will be washed to remove any silts, sand, clay, and organic matter and will be free of contaminants such as petroleum products. Washed gravel will pass Caltrans cleanliness test #227 with a value of 85 or greater.</p>			
<p><b>4.6-2d</b> Reclamation will prepare and implement a SWPPP that describes BMPs for the project, including silt fences, sediment filters, and routine monitoring to verify effectiveness. Proper implementation of erosion and sediment controls will be adequate to minimize sediment inputs into the Trinity River until vegetation regrowth occurs. All required controls and BMPs, including sediment and erosion control devices, will be inspected daily during the construction period to ensure that the devices are properly functioning. Excavated and stored materials will be kept in upland activity areas with erosion control properly installed and maintained. Excavated and stored materials will be staged in stable upland activity areas. All applicable erosion control standards will be required during stockpiling of materials.</p>			

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
<b>4.6-2e</b> To minimize the potential for increases in turbidity and suspended sediments entering the Trinity River as a result of access routes (e.g., roads), Reclamation will implement the following protocols: <ul style="list-style-type: none"> <li>• Keep bare soil to the minimum required by designs. Erosion control devices/measures will be applied to areas where vegetation has been removed to reduce short-term erosion prior to the start of the rainy season.</li> <li>• Keep runoff from bare soil areas well dispersed. Dispersing runoff keeps sediment on-site and prevents sediment delivery to streams. Direct any concentrated runoff from bare soil areas into natural buffers of vegetation or areas with more gentle slopes where sediment can settle out.</li> <li>• Disconnect and disperse flow paths, including roadside ditches, that might otherwise deliver fine sediment to stream channels.</li> <li>• Decomact or rip floodplain areas so that surfaces are permeable and no surface water runoff occurs.</li> </ul>			
<b>Impact 3.6-3: Construction activities associated with the Proposed Project could result in the accidental spill of hazardous materials that could adversely affect fishes, including the federally and state-listed coho salmon.</b>			
<b>4.6-3a</b> Construction specifications will include the following measures to reduce potential impacts associated with accidental spills of pollutants (fuel, oil, grease, etc.) on vegetation and aquatic habitat resources within the project boundary: <ul style="list-style-type: none"> <li>• Equipment and materials will be stored away from wetland and surface water features.</li> <li>• Vehicles and equipment used during construction will receive proper and timely maintenance to reduce the potential for mechanical breakdowns leading to a spill of materials. Maintenance and fueling will be conducted in an area at least 150 feet away from waters of the Trinity River or within an appropriate secondary fueling containment area. Gasoline engines and pumps operated on the floodplain will be isolated from the ground by an impermeable barrier.</li> <li>• The contractor will develop and implement site-specific BMPs, a water pollution control plan, and emergency spill control plan. The contractor will be responsible for immediate containment and removal of any toxins released.</li> </ul>		Reclamation (implementation)	
<b>Impact 3.6-4: Construction activities associated with the Proposed Project could result in the mortality of rearing fishes, including the federally and state-listed coho salmon.</b>			
<b>4.6-4a</b> To avoid impacts to spawning and incubating salmonids, instream work will only occur between July 15 and September 15.			
<b>4.6-4b</b> To avoid or minimize potential injury and mortality of fish during riverine activities (e.g., addition and grading of coarse sediment), equipment will be operated slowly and deliberately to alert and scare adult and juvenile salmonids away from the work area.			
<b>4.6-4c</b> Reclamation will minimize potential injury and mortality of fish during the use of low-flow channel crossings. This will be accomplished by minimizing vehicle traffic and by operating equipment and vehicles slowly and deliberately to alert and scare adult and juvenile salmonids away from the			

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
crossing area, or by having a person wade ahead of equipment to scare fish away from the crossing area.			
<b>4.6-4d</b> To avoid or minimize potential injury and mortality of fish during excavation and placement of fill materials in the active low-flow channel, equipment will be operated slowly and deliberately to alert and scare adult and juvenile salmonids away from the work area. Reclamation will ensure that before submerging an excavator bucket or laying gravel below the water surface, the excavator bucket will be operated to "tap" the surface of the water, or a person will wade ahead of fill placement equipment to scare fish away from the work area. To avoid impacts to mobile life stages of salmonids that may be present in the water column, the first layers of clean gravel that are being placed into the wetted channel will be added slowly and deliberately to allow fish to move from the work area.			
<b>4.6-4f</b> Monitoring of the constructed inundation surfaces for salmon fry stranding will be performed by a qualified fishery biologist immediately after recession of flood flow events designated as a 1.5-year or less frequent event (i.e., $Q \geq 6,000$ cfs) for a period of 3 years following construction. These flows, and associated fry stranding surveys, will typically occur between January and May. If substantial stranding is observed, Reclamation will take appropriate measures to return stranded fishes to river habitats and to subsequently modify the constructed surfaces prior to the next managed flow release to reduce the likelihood of future occurrences of fry stranding.		Reclamation (implementation)	
<b>Impact 3.6-5: Implementation of the Proposed Project would result in the permanent and temporary loss of SRA for anadromous salmonids.</b>			
<b>4.6-5a</b> Prior to the start of construction activities, Reclamation will retain a qualified biologist to identify potential construction access routes necessary for the projects to ensure that these features avoid and/or minimize to the fullest extent impacts to riparian habitats and wetland waters. In addition, Reclamation will clearly identify, and flag in the field, biologically sensitive areas (e.g., jurisdictional waters and riparian habitat) to be protected, and will provide the contractor with specific instructions to avoid any construction activity within these features. Reclamation will inspect and maintain flagged areas on a regular basis throughout the construction phase.		Reclamation (implementation)	
<b>4.6-5b</b> Reclamation will continue to implement the Riparian Revegetation and Monitoring Plan during Proposed Project implementation. The plan acknowledges that the ultimate goals of the TRRP include enhancement and maintenance of functional riparian habitat and no net-loss of riparian habitat and jurisdictional wetlands within channel rehabilitation site boundaries and generally throughout the 40-mile reach of the Trinity River below the TRD.			
<b>4.6-5c</b> Reclamation will initiate a 10-year mitigation monitoring program after the first growing season following project implementation. After a period of 5 years, the need for additional riparian habitat and wetland enhancement will be evaluated in a written report. At that time, Reclamation, in consultation with the USACE, Regional Water Board, and CDFG, will determine whether there is a need to further enhance or create additional areas of riparian habitat or jurisdictional wetlands within the project boundary so that there will be no net loss of riparian habitat after a 10-year monitoring period. In addition, wetlands will be redelineated 5 years post-project implementation to ensure no net loss of		Reclamation (implementation)	

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
wetland habitat. Riparian habitat reporting 5 years after project implementation and wetland delineation 5 years after implementation will provide Reclamation with needed data in a timely fashion to take additional pro-active measures towards meeting the goals of no net loss of riparian and jurisdictional wetland habitat within rehabilitation site boundaries after 10 years.			
<b>Impact 3.6-6:</b> Implementation of the Proposed Project would result in fish passage being temporarily impaired during the in-stream construction phase.			
<b>4.6-6a</b> Low water crossings will only be constructed and used between July 15 and September 15. Fill gravels used on the low-water crossings, streambeds, and stream banks will be composed of washed, spawning-sized gravels from a local Trinity Basin source. Gravel will be washed to remove any silts, sand, clay, and organic matter and will be free of contaminants such as petroleum products. Washed gravel will pass Caltrans cleanliness test #227 with a value of 85 or greater. Abutment and embankment materials used for bridges will be native alluvium obtained from within the boundaries of the Remaining Phase 1 or Phase 2 sites.			
<b>4.6-6b</b> Reclamation will construct the low-flow channel crossings to allow adequate depths and velocities for adult and juvenile salmonids to pass safely. Flows associated with storm events are not considered critical because the width and hydrologic conditions associated with low-flow channel crossings in the Trinity River are not considered to limit fish passage at elevated flows and would be comparable to hydrologic conditions in local riffle-and-run features. For Trinity River low-flow channel crossings at base flows, velocities will not exceed 2 feet per second to allow for juvenile fish passage and water depths will not be less than 12 inches in two-thirds of the river channel to provide adequate depth for adult salmon and steelhead passage.			
<b>4.6-6c</b> The number of vehicle and equipment crossings of the Trinity River will be minimized.			
<b>4.6-6d</b> Reclamation will not impede the physical features or hydraulic process of the Trinity River in a fashion that would be inconsistent with the 2000 Biological Opinion (National Marine Fisheries Service 2000), or result in a temporary impairment to fish passage related to a bridge.			
<b>3.7 Vegetation, Wildlife, and Wetlands</b>			
<b>Impact 3.7-1:</b> Construction activities associated with the Proposed Project could result in the loss of jurisdictional waters including wetlands.			
<b>4.7-1a</b> Prior to the start of construction activities, Reclamation will retain a qualified biologist to identify potential construction access routes to ensure that these features avoid and/or minimize to the fullest extent impacts to jurisdictional waters. In addition, Reclamation will clearly identify, and flag in the field, biologically sensitive areas (e.g., jurisdictional waters and riparian habitat) to be protected, and will provide the contractor with specific instructions to avoid any construction activity within these features. Reclamation will inspect and maintain marked areas on a regular basis throughout the construction phase.		Reclamation (implementation)	
<b>4.7-1b</b> Reclamation will continue to implement the Riparian Revegetation and Monitoring Plan during Proposed Project implementation. The plan acknowledges that the ultimate goals of the TRRP include enhancement and maintenance of functional riparian habitat and no net loss of riparian habitat and			

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
jurisdictional wetlands both within channel rehabilitation site boundaries and generally throughout the 40-mile reach of the Trinity River below the TRD.			
<b>4.7-1c</b> Reclamation will initiate a 10-year mitigation monitoring program after the first growing season following project implementation. Monitoring and maintenance of planted vegetation will take place in the first several years after planting. After a period of 5 years, the need for additional riparian habitat and wetland enhancement will be evaluated in a written report. At that time, Reclamation, in consultation with the USACE, Regional Water Board, and CDFG, will determine whether there is a need to further enhance or create additional areas of riparian habitat or jurisdictional wetlands within the project boundary so that there will be no net loss of wetlands at the end of a 5 year period and no net loss of riparian habitat after a 10-year monitoring period. In addition, wetlands will be re-delineated 5 years after project implementation to ensure no net loss of wetland habitat. Riparian habitat reporting 5 years after planting and wetland delineation 5 years after project implementation will provide Reclamation with needed data in a timely fashion to take additional pro-active measures towards meeting the goals of no net loss of riparian habitat and jurisdictional wetlands within boundaries established for TRRP rehabilitation sites after 10 years.			
<b>Impact 3.7-3: Construction of the Proposed Project could result in the loss of individuals of a special-status plant species.</b>			
<b>4.7-3a</b> A qualified botanist will conduct a minimum of two pre-construction surveys to determine if special-status plant species occur within the project sites. Surveys shall be conducted during the blooming periods of the plants potentially occurring at the sites to determine (1) if the species occur and (2) the quality, location, and extent of any populations. If a special-status plants species is found within 250 feet of any proposed disturbance, Mitigation Measures 4.7-3b and 4.7-3c will be implemented.		Reclamation (implementation)	
<b>4.7-3b</b> Prior to the start of disturbance, exclusionary fencing will be erected around the known occurrences. If necessary, a qualified botanist shall be present to assist with locating these special-status plant populations. The exclusionary fencing will be periodically inspected throughout each period of construction and be repaired as necessary.			
<b>4.7-3c</b> If a population cannot be fully avoided, Reclamation will retain a qualified botanist to (1) determine appropriate salvage and relocation measures and (2) implement appropriate measures in coordination with CDFG staff.			
<b>Impact 3.7-4: Construction activities associated with the Proposed Project could result in impacts to the state-listed little willow flycatcher (<i>Empidonax traillii</i>).</b>			
<b>4.7-4a</b> Prior to the start of construction, a qualified biologist will conduct a survey of the rehabilitation sites to determine whether suitable nesting habitat for the little willow flycatcher is present. If suitable habitat is present, Mitigation Measure 4.7-4b will be implemented.		Reclamation (implementation)	
<b>4.7-4b</b> Grading and other construction activities will be scheduled to avoid the nesting season to the extent possible. The nesting season for this species in Trinity County extends from June 1 through July 31. If construction occurs outside of the breeding season, no further mitigation is necessary. If the			

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
breeding season cannot be completely avoided, Mitigation Measures 4.7-4c and 4.7-4d will be implemented.			
<b>4.7-4c</b> A qualified biologist will conduct a minimum of one pre-construction survey for the little willow flycatcher within the rehabilitation sites and a 250-foot buffer around the sites. The survey will be conducted no more than 15 days prior to the initiation of construction in any given area. The pre-construction survey(s) will be used to ensure that no nests of this species within or immediately adjacent to the rehabilitation site will be disturbed during project implementation. To the extent possible given timing for construction and with the contract award, pre-construction surveys will conform to methodologies identified in a Willow Fly Catcher Survey Protocol for California available online at: <a href="http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html#Birds">http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html#Birds</a> . If an active nest is found, CDFG will be contacted prior to the start of construction to determine the appropriate mitigation measures.			
<b>4.7-4d</b> If vegetation is to be removed by the projects and all necessary approvals have been obtained, potential nesting substrate (e.g., shrubs and trees) that will be removed by the projects will be removed before the onset of the nesting season, if feasible. This will help preclude nesting and substantially decrease the likelihood of direct impacts.			
<b>Impact 3.7-5: Construction activities associated with the Proposed Project could result in impacts to the foothill yellow-legged frog (<i>Rana boylei</i>).</b>			
<b>4.7-5a</b> If any construction in the Trinity River channel will occur prior to August 1 of any construction season, a pre-construction survey for the foothill yellow-legged frog larvae and/or eggs will be conducted by a qualified biologist. This survey will be conducted within the construction boundary no more than 2 weeks prior to the start of in-stream construction activities. If larvae or eggs are detected, the biologist will relocate them to a suitable location outside of the construction boundary.		Reclamation (implementation)	
<b>4.7-5b</b> In the event that a foothill yellow-legged frog is observed within the construction boundary, the contractor will temporarily halt in-stream construction activities until qualified personnel have moved the frog(s) to a safe location within suitable habitat outside of the construction limits. Planned locations for placement of transferred animals will be downstream of the construction limits and will be reported to the CDFG prior to construction.			
<b>4.7-5c</b> Mitigation measures identified in Section 3.5 (Water Quality) of this EA/IS for addressing erosion and sedimentation and accidental spills will be fully implemented to mitigate for potential indirect impacts to dispersal habitat for the foothill yellow-legged frog due to sedimentation and accidental spills.			
<b>4.7-5d</b> Mitigation measures associated with the disturbance to riparian habitat (Mitigation Measures 4.7-1a, 4.7-1b, and 4.7-1c) will be fully implemented.			
<b>Impact 3.7-6: Construction activities associated with the Proposed Project could result in impacts to the western pond turtle (<i>Actinemys marmorata pallida</i>).</b>			

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
<b>4.7-6a</b> A minimum of one survey for western pond turtle nests will be conducted during the nesting season (generally late June-July) prior to construction. A qualified biologist will be retained by Reclamation to conduct the survey. If a western pond turtle nest is found, the biologist will flag the site and determine whether construction activities can avoid affecting the nest. If the nest cannot be avoided, the nest will be excavated by the biologist and reburied at a suitable location outside of the construction limits.		Reclamation (implementation)	
<b>4.7-6b</b> Prior to construction in open water habitat, a qualified biologist will trap and move western pond turtles out of the construction area to nearby suitable habitats.			
<b>4.7-6c</b> During construction, in the event that a western pond turtle is observed within the construction limits, the contractor will temporarily halt construction activities until qualified personnel have moved the turtle(s) to a safe location within suitable habitat outside of the construction limits. Planned locations for placement of transferred animals will be downstream of the construction limits and will be reported to the CDFG prior to construction.			
<b>4.7-6d</b> Mitigation measures presented in Section 4.5 (Water Quality) for addressing erosion and sedimentation and accidental spills will be fully implemented to mitigate for the potential indirect impacts to potential dispersal habitat due to sedimentation and accidental spills.			
<b>4.7-6e</b> The mitigation measure associated with the disturbance to riparian habitat (Mitigation Measures 4.7-1a, 4.7-1b, and 4.7-1c) will be fully implemented.			
<b>Impact 3.7-7: Construction activities associated with the Proposed Project could result in impacts to nesting Vaux's swift (<i>Chaetura vauxi</i>), California yellow warbler (<i>Dendroica petechia</i>), and yellow-breasted chat (<i>Icteria virens</i>).</b>			
<b>4.7-7a</b> Prior to the start of construction, a qualified biologist will conduct surveys of the rehabilitation sites to determine whether suitable nesting habitat for the species is present. If suitable habitat is present, Mitigation Measure 4.7-7b will be implemented.		Reclamation (implementation)	
<b>4.7-7b</b> Grading and other construction activities will be scheduled to avoid the nesting season for these species to the extent possible. The nesting season for these species in Trinity County extends from March 15 through July 31. If construction occurs outside the breeding season, no further mitigation is necessary. If construction during the breeding season cannot be completely avoided, Mitigation Measures 4.7-7c and 4.7-7d will be implemented.			
<b>4.7-7c</b> A qualified biologist will conduct a minimum of one preconstruction survey for these species within the rehabilitation sites and a 250-foot buffer around the sites. The survey will be conducted no more than 15 days prior to the initiation of construction in any given area. The preconstruction surveys will be used to ensure that no nests of these species within or immediately adjacent to the rehabilitation sites will be disturbed during project implementation. If an active nest is found, a qualified biologist will determine the extent of a construction-free buffer zone to be established around the nest.			
<b>4.7-7d</b> If vegetation is to be removed by the project and all necessary approvals have been obtained, potential nesting habitat (e.g., shrubs and trees) that will be removed by the projects will be removed			

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
before the onset of the nesting season, if feasible. This will help preclude nesting and substantially decrease the likelihood of direct impacts.			
<b>Impact 3.7-8: Construction activities associated with the Proposed Project could result in impacts to nesting bald eagle (<i>Haliaeetus leucocephalus</i>) and northern goshawk (<i>Accipiter gentilis</i>).</b>			
<b>4.7-8a</b> Prior to the start of construction, a qualified biologist will conduct a survey of the rehabilitation sites to determine whether suitable nesting habitat for the species is present. If suitable habitat is present, Mitigation Measure 4.7-8b will be implemented.		Reclamation (implementation)	
<b>4.7-8b</b> Construction will be scheduled to avoid the nesting season for bald eagles and northern goshawks to the extent feasible. The nesting season for most raptors in Trinity County extends from February 15 through July 31. Thus, if construction can be scheduled to occur between August 1 and February 14, the nesting season will be avoided and no impacts to nesting bald eagles and northern goshawks will be expected. If it is not possible to schedule construction during this time, mitigation measures 4.7-8c and 4.7-8d will be implemented.			
<b>4.7-8c</b> Pre-construction surveys for nesting northern goshawks will be conducted by a qualified biologist to ensure that no nests will be disturbed during project implementation. These surveys will be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the biologist will inspect all trees immediately adjacent to the impact areas for bald eagle and northern goshawk nests. If an active nest is found within 500 feet of the construction areas to be disturbed by these activities, the biologist, in consultation with the CDFG, will determine the extent of a construction-free buffer zone to be established around the nest.			
<b>4.7-8d</b> If vegetation is to be removed as part of the project and all necessary approvals have been obtained, potential nesting habitat (i.e., trees) that will be removed by the projects will be removed before the onset of the nesting season, if feasible. This will help preclude nesting and substantially decrease the likelihood of direct impacts.			
<b>Impact 3.7-9: Construction activities associated with the Proposed Project could result in impacts to special-status bats and the ring-tailed cat (<i>Bassariscus astutus</i>).</b>			
<b>4.7-9a</b> Pre-construction surveys for roosting bats and ring-tailed cats will be conducted prior to the start of construction activities. The surveys will be conducted by a qualified biologist. No activities that will result in disturbance to active roosts of special-status bats or dens of ring-tailed cats will proceed prior to completion of the surveys. If no active roosts or dens are found, no further action is needed. Because bats are known to abandon young when disturbed, if a maternity roost is located, a qualified bat biologist will determine the extent of a construction-free zone to be implemented around the roost. If a bat maternity roost or hibernaculum is present, or a ring-tailed cat den is present, Mitigation Measures 4.7-9b and/or 4.7-9c will be implemented. CDFG will also be notified of any active bat nurseries within the disturbance zones.		Reclamation (implementation)	
<b>4.7-9b</b> If an active maternity roost or hibernaculum is found, the projects will be redesigned to avoid the loss of the tree or structure occupied by the roost, if feasible. If the projects cannot be redesigned			

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
to avoid removal of the structure, demolition of that structure will commence before bat maternity colonies form (i.e., prior to March 1) or after young are volant (flying) (i.e., after July 31). The disturbance-free buffer zones described above will be observed during the bat maternity roost season (March 1–July 31). If a non-breeding bat hibernaculum is found in a tree or structure to be razed, the individuals will be safely evicted under the direction of a qualified bat biologist, by opening the roosting area to allow air to flow through the cavity. Demolition will then follow no sooner than the following day (i.e., there will be no less than one night between initial disturbance for air flow and the demolition). This action will allow bats to leave during dark hours, thus increasing their chance of finding new roosts with a minimum of potential predation during daylight. Trees with roosts that need to be removed will first be disturbed at dusk, just prior to removal that same evening, to allow bats to escape during the darker hours.			
<b>4.7-9c</b> Ring-tailed cats are fully protected species under Fish and Game Code Section 4700. Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research. If an active ring-tailed cat nest is found, the projects will be redesigned to avoid the loss of the tree occupied by the nest if feasible. If the projects cannot be redesigned to avoid removal of the occupied tree, the CDFG will be contacted for their input. If approved by CDFG, demolition of the tree will commence outside of the breeding season (February 1 to August 30). If a non-breeding den is found in a tree scheduled to be removed, prior to disturbance, the CDFG will be notified to review and approve proposed procedures to ensure that no take occurs as a result of the action. Trees with dens that need to be removed will first be disturbed at dusk, just prior to removal that same evening, to allow ring-tailed cats to escape during the darker hours.			
<b>Impact 3.7-11: Construction activities associated with the proposed project could result in impacts to BLM and USFS sensitive species (Pacific fisher).</b>			
Mitigations measures identified previously would reduce impacts to BLM and USFS sensitive species to less than significant. Mitigation measures 4.7-4a, 4.7-4b, and 4.7-4c would reduce impacts to the little willow flycatcher to a less than significant level. Mitigation measures 4.7-5a, 4.7-5b, 4.7-5c, and 4.7-5d would reduce the impacts to the foothill yellow-legged frog to a less than significant level. Mitigation measures 4.7-6a, 4.7-6b, 4.7-6c, and 4.7-6d would reduce the impacts to the western pond turtle to a less than significant level. Mitigation measures 4.7-8a, 4.7-8b, and 4.7-8c would reduce the impacts to the northern goshawk to a less than significant level. Mitigation measures 4.7-9a and 4.7-9b would reduce impacts to special-status bats and the ring-tailed cat to less than significant.		Reclamation (implementation)	
<b>Impact 3.7-13: Implementation of the proposed project could result in the spread of non-native and invasive plant species.</b>			
<b>4.7-13a</b> When using imported erosion control materials (as opposed to rock and dirt berms), use only certified weed-free materials, mulch, and seed.		Reclamation (implementation)	
<b>4.7-13b</b> Preclude the use of rice straw in riparian areas.			
<b>4.7-13c</b> Limit any import or export of fill to materials to those that are known to be weed free.			

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
<b>4.7-13d</b> Ensure all construction equipment is thoroughly washed prior to entering the worksite. Equipment will be inspected to ensure that it is free of plant parts as well as soils, mud, or other debris that may carry weed seeds.			
<b>4.7-13e</b> Use a mix of native grasses, forbs, and non-persistent non-native species for seeding disturbed areas that are subject to infestation by non-native and invasive plant species. Where appropriate, a heavy application of mulch will be used to discourage introduction of these species. Use of planting plugs of native grass species may also be used to accelerate occupation of disturbed sites and increase the likelihood of reestablishing a self-sustaining population of native plant species.			
<b>4.7-13f</b> Within the first 3 to 5 years post-project, if it is determined that the project has caused non-native invasive vegetation to out-compete desired planted or native colonizing riparian vegetation, opportunities to control these non-native species will be considered. When implementing weed control techniques, the approach will consider using all available control methods known for a weed species.			
<b>4.7-13g</b> Within the first 3 to 5 years post-project, if it is determined that on-site revegetation/post-project conditions do not meet landowner requirements, opportunities to revisit the site and remedy the concern will be considered.			
<b>3.8 Recreation</b>			
<b>Impact 3.8-1: Construction associated with the proposed project could disrupt recreation activities such as boating, fishing, and swimming in the Trinity River.</b>			
<b>4.8-1a</b> Reclamation shall provide precautionary signage to warn recreational users of the potential safety hazards associated with project construction activities. Signs and/or buoys shall be placed within and directly adjacent to the project boundaries along the Trinity River in accordance with the requirements specified in Title 14, Article 6 of the California Code of Regulations. Notification signs shall be posted at public river access areas located within the project area and managed by BLM. Additionally, public notification of proposed project construction activities and associated safety hazards shall be circulated in the local <i>Trinity Journal</i> newspaper prior to the onset of project construction.		Reclamation (implementation)	
<b>4.8-1b</b> Reclamation will repair and/or replace any facilities associated with the Proposed Project that are impacted by project activities. This measure includes installation of interpretive signage consistent with the requirements of the BLM. Preconstruction meetings between Reclamation and landowners/land managers will identify the amount of vegetative screening to be retained at each recreation site within the project area.			
<b>Impact 3.8-2: Construction of the proposed project could result in an increased safety risk to recreational users or resource damage to lands within the project boundaries.</b>			
Implementation of Mitigation Measures 4.8-1a and 4.8-1b described above would make this impact less than significant.		Reclamation (implementation)	
<b>Impact 3.8-3: Construction activities associated with the proposed project could lower the Trinity River's aesthetic values for recreationists by</b>			

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
<b>increasing its turbidity.</b>			
Mitigation measures 4.5-1a, 4.5-1b, 4.5-1c, 4.5-1d, and 4.5-1e described above for impact 3.5-1 would reduce impacts to less than significant.			
<b>3.10 Cultural Resources</b>			
<b>Impact 3.10-2: Implementation of the proposed project could potentially result in disturbance of undiscovered prehistoric or historic resources.</b>			
<b>4.10-2a</b> Prior to initiation of construction or ground-disturbing activities, all construction workers will be alerted to the possibility of discovering cultural resources. This includes prehistoric and/or historic resources. Personnel will be instructed that upon discovery of buried cultural resources, work within 50 feet of the find will be halted and Reclamation's designated archaeologist will be consulted. Once the find has been identified, Reclamation will be responsible for developing a treatment plan for the cultural resource including an assessment of its historic properties and methods for avoiding any adverse effects, pursuant to the PA and in compliance with the NHPA.		Reclamation (implementation)	
<b>4.10-2b</b> If human remains are encountered during construction on non-federal lands, work in that area will be halted and the Trinity County Coroner's Office will be immediately contacted. If the remains are determined to be of Native American origin, the Native American Heritage Commission (NAHC) will be notified within 24 hours of determination, as required by PRC, Section 5097. The NAHC will notify designated Most Likely Descendants, who will provide recommendations for the treatment of the remains within 24 hours. The NAHC will mediate any disputes regarding treatment of remains. If Native American human remains and associated items are discovered on federal lands, they will be treated according to provisions set forth in the Native American Protection and Repatriation Act (25 USC 3001) as well as Reclamation's Directives and Standards LND 02-01. If the find is determined to be a historical resource or a unique archaeological resource, as defined by CEQA, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or other appropriate mitigation will be made available. Work may continue on other parts of the project while mitigation for historical or unique archaeological resources takes place.			
<b>3.11 Air Quality</b>			
<b>Impact 3.11-1: Construction activities associated with the proposed project could result in an increase in fugitive dust and associated particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) levels.</b>			
<b>4.11-1a</b> Reclamation will implement a dust control program to limit fugitive dust and particulate matter emissions. The dust control program will include the following elements as appropriate: <ul style="list-style-type: none"> <li>Inactive construction areas will be watered as needed to ensure dust control.</li> <li>Pursuant to the California Vehicle Code (Section 23114), all trucks hauling soil or other loose material to and from the construction site will be covered or will maintain adequate freeboard to ensure retention of materials within the truck's bed (e.g., ensure 1-2 feet vertical distance between top of load and the trailer).</li> <li>Excavation activities and other soil-disturbing activities will be conducted in phases to reduce the</li> </ul>		Reclamation (implementation)	

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
<p>amount of bare soil exposed at any one time. Mulching with weed-free materials will be used to minimize soil erosion, as described in Section 3.3, Geology, Fluvial Geomorphology, and Soils, and Section 3.5, Water Quality.</p> <ul style="list-style-type: none"> <li>• Watering (using equipment and/or manually) will be conducted on all stockpiles, dirt/gravel roads, and exposed or disturbed soil surfaces, as necessary, to reduce airborne dust.</li> <li>• All paved access roads, parking areas, and staging areas will be swept (with water sweepers), as required by Reclamation.</li> <li>• Paved roads will be swept (with water sweepers) if visible soil material is carried onto adjacent private and public roads, as required by Reclamation.</li> <li>• All ground-disturbing activities with the potential to generate dust will be suspended when winds exceed 20 mph, as directed by the NCUAQMD.</li> <li>• Reclamation or its contractor will designate a person to monitor dust control and to order increased watering as necessary to prevent transport of dust offsite. This person will also respond to citizen complaints.</li> </ul>			
<b>Impact 3.11-2: Construction activities associated with the proposed project could result in an increase in construction vehicle exhaust emissions.</b>			
<b>4.11-2a</b> Reclamation will comply with NCUAQMD Rule 104 (4.0) Particulate Matter. This compliance could occur by using portable internal combustion engines registered and certified under the state portable equipment regulation (Health & Safety Code 41750 through 41755).		Reclamation (implementation)	
<b>Impact 3.11-3: Construction activities and removal of vegetation associated with the proposed project could result in vegetative waste materials that managers may decide to burn.</b>			
<b>4.11-3a</b> Vegetative piles to be burned will consist only of dried vegetative materials. Burn piles will be no larger than 10 feet in diameter. Field personnel will be on site during all hours of burning, and materials necessary to extinguish fires will be available at all times.		Reclamation (implementation)	
<b>4.11-3b</b> In general, all requirements of a NCUAQMD "NON-Standard" burn permit will be met for burning. Burn management planning will include but not be limited to the following: <ul style="list-style-type: none"> <li>• Ensure that burning occurs only on approved burn days as defined by the NCUAQMD (determined by calling 1-866-BURN-DAY).</li> <li>• Burning will only occur during suitable conditions to ensure control of ignited fires. For instance, water to wet the litter and duff layer and penetrate the mineral soil layer to 1/4 inch or more will be present, wind speeds will be low (&lt;10 mph), and temperature will be low (&lt;80 °F).</li> <li>• Piles will be covered with a 5-foot x 5-foot sheet of 4-mil polyethylene plastic to promote drying of the slash. At least 3/4 of each pile surface will be covered and the plastic anchored to preserve a dry ignition point. Dry fuel conditions will minimize smoke emissions.</li> <li>• Slash piles will not be constructed on logs, stumps, or talus slopes within 25 feet of wildlife trees with nest structures, in roadways, or in drainage ditches. Piles will not be placed within 10 feet of trees intended to be saved (reserved trees) or within 25 feet of a unit boundary.</li> </ul>			

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
<b>4.11-3c</b> Reclamation will notify the public each day that burning is to occur. Signs or personnel will notify residents and traffic on nearby access routes.			
<b>Impact 3.11-5: Construction activities would generate short-term and localized fugitive dust, gas, and diesel emissions, and smoke that could affect adjacent residences and schools.</b>			
<b>4.11-5a</b> Construction activity occurring within 300 feet of elementary schools will be limited to the period when school is not in session.		Reclamation (implementation)	
<b>4.11-5b</b> Construction activity occurring within 300 feet of residences will be limited to Monday through Saturday, from the hours of 9 a.m. to 5 p.m.			
<b>4.11-5c</b> Reclamation will notify residences within 300 feet of the site and project activity and elementary schools will be notified of construction activity located near the school prior to site construction activities.			
<b>4.11-5d</b> Reclamation will ensure that a notice is posted at/adjacent to the rehabilitation site, which contains a phone number for the public to contact for concerns related to air quality.			
<b>3.12 Aesthetics</b>			
<b>Impact 3.12-1: Implementation of the proposed project could result in the degradation and/or obstruction of a scenic view from key observation areas.</b>			
Implementation of mitigation measures 4.7-1a, 4.7-1b, and 4.7-1c and 4.8-3a, 4.8-3b, 4.8-3c, 4.8-3d, 4.8-3e, and 4.8-3f described above will reduce the impacts to visual resources to less than significant.		Reclamation (implementation)	
<b>3.14 Noise</b>			
<b>Impact 3.14-1: Construction activities associated with the proposed project would result in noise impacts to nearby sensitive receptors.</b>			
<b>4.14-1a</b> Construction activities near residential areas will be scheduled between 7:00 a.m. and 7:00 p.m., Monday through Saturday. No construction activities will be scheduled for Sundays or other hours and days established by the local jurisdiction (i.e., Trinity County). The contractor may submit a request for variances in construction activity hours, as needed.		Reclamation (implementation)	
<b>4.14-1b</b> Reclamation will require that all construction equipment be equipped with manufacturer's specified noise muffling devices.			
<b>4.14-1c</b> Reclamation will require placement of all stationary noise-generating equipment as far away as feasibly possible from sensitive noise receptors or in an orientation minimizing noise impacts (e.g., behind existing barriers, storage piles, unused equipment).			
<b>3.15 Public Services and Utilities/Energy</b>			
<b>Impact 3.15-3: Implementation of the proposed project could result in disruption to emergency services, school bus routes, or student travel routes during construction activities.</b>			
<b>4.15-3a</b> Reclamation will require that staging and construction work, including temporary road or bridge closures occurs in a manner that allows for access by emergency service providers.		Reclamation (implementation)	

Mitigation Measure	Timing/ Implementation	Responsible Parties (task)	Verification (date and initials)
<b>4.15-3b</b> Reclamation will provide 72-hour notice to the local emergency providers and affected users prior to the start of temporary closures.			
<b>4.15-3c</b> Reclamation will coordinate road closures occurring during the school year (mid-August through mid-June) with the appropriate school districts to avoid disruption of school attendance and student access to bus service.			
<b>3.16 Transportation/Traffic Circulation</b>			
<b>Impact 3.16-2: Construction activities would generate short-term increases in vehicle trips.</b>			
<b>4.16-2a</b> Reclamation will post signs during gravel haul activities notifying travelers of trucks entering the roadway. Reclamation will ensure that the gravel trucks maintain a speed limit of 15 mph on residential roads and private roads and operate only between the hours of 7 a.m. and 7 p.m., Monday through Saturday.			
<b>Impact 3.16-4: Construction activities would increase wear and tear on local roadways.</b>			
<b>4.16-4a</b> Reclamation will perform a pre-construction survey of local federal and state roads to determine the existing roadway conditions of the construction access routes, and will consult with the relevant agencies/private parties about road conditions prior to construction activity and post construction activity. An agreement will be entered into prior to construction that will detail the pre-construction conditions and post-construction requirements for potential roadway rehabilitation.		Reclamation (implementation)	
<b>Impact 3.16-5: Construction activities could pose a safety hazard to motorists, bicyclists, pedestrians, and equestrians.</b>			
<b>4.16-5a</b> Reclamation will prepare and implement a traffic control plan that will include provision and maintenance of temporary access through the construction zone, reduction in speed limits through the construction zone, signage and appropriate traffic control devices, illumination during hours of darkness or limited visibility, use of safety clothing/vests to ensure visibility of construction workers by motorists, and fencing as appropriate to separate bicyclists, pedestrians, and equestrians from construction activities. Reclamation will obtain an encroachment permit from Caltrans to work within the SR-299 easement, and from Trinity County within the Lower Steiner Flat Road easement. These permits will require traffic control and signage to meet California state standards.		Reclamation (implementation)	

## **Project Design Elements**

Project design elements are specific design features proposed by the project applicant and incorporated into the project to prevent the occurrence of, or reduce the significance of potential environmental effects. Because project design elements have been incorporated into the project, they do not constitute mitigation measures as defined by CEQA. However, project design elements are identified to ensure that they are included in the MMRP to be developed and implemented as part of the Proposed Project. The design elements discussed below are common to the Proposed Project. These elements are excerpted from Chapter 2 of the Draft Master EIR.

## **Description of Common Activities and Construction Criteria and Methods**

### **Common Activities**

#### **VEGETATION REMOVAL**

Vegetation removal would involve the following:

- Remove vegetation to provide access to activity areas using a combination of manual labor and heavy equipment (i.e., chainsaw, excavator, and vegetation masticator).
- Remove stumps, roots, and vegetative matter to allow river scour on excavated floodplain surfaces. Some LWD would be retained for use in the floodplain to enhance fish habitat.
- Dispose of removed vegetation by chipping, hauling offsite, burning, burying within spoil areas, or other appropriate methods. Reclamation would continue to work with local agencies to encourage the efficient use of chipping as a priority method of disposing of vegetative waste.
- Protect vegetation designated for preservation within clearing limits. Vegetation outside the clearing limits would be preserved and protected.
- Mechanically remove submerged roots from river fringe areas with ripping bars or excavator buckets. Equipment chassis (i.e., tires, tracks) would remain outside of the wetted portion of the river channel when removing submerged roots.

#### **WATER USE**

Water would be used at all sites, in accordance with the following:

- Riparian water rights held by public and private landowners on the Trinity River would be used to obtain Trinity River water to support restoration. Dust abatement water would be obtained from on-site seep wells or the Trinity River. When drafting from the Trinity River, pump intakes would be in conformance with criteria established by NMFS and CDFG to prevent impacts to aquatic organisms. Make-up water pumped from the river would pass through a screen at the inlet with maximum ¼-inch openings and a maximum intake velocity of 0.8 feet per second (fps).
- In the event irrigation is necessary for revegetation efforts, the primary water source would be the Trinity River. Any surface water sources used for irrigation would be developed in order to comply with the water rights of land management agencies and landowners. Pump intakes would be in conformance with criteria established by NMFS

and CDFG to prevent impacts to aquatic organisms. Make-up water pumped from the river would pass through a screen at the inlet with maximum ¼-inch openings and a maximum intake velocity of 0.8 fps.

## **MONITORING**

The ROD provided a restoration strategy for the TRRP but did not identify methods for assessing the effectiveness of the management actions in achieving TRRP goals or management targets. Instead, it directed the TRRP to organize assessments around the principles of AEAM and to use this to rigorously assess the river's response to management actions. The Integrated Assessment Plan (IAP) provides the basis for applying the AEAM principles outlined in the ROD.

These principles would be applied to quantitatively determine the overall status and trend of river system attributes relative to TRRP objectives, using appropriate data to describe each attribute, with data collected based upon scientifically defensible monitoring designs. The causal relationship between rehabilitation of the fluvial nature of the river and increasing salmonid production would be the major focal point for monitoring and modeling. The focus of the IAP is to identify key assessments that:

- Evaluate long-term progress toward achieving program goals and objectives; and
- Provide short-term feedback to improve program management actions by testing key hypotheses and reducing management uncertainties.

The IAP provides a general framework for integrating and linking assessments across monitoring domains. Integration of assessments would be essential for evaluating the TRRP's overall restoration strategy, involving coordinated actions to support multiple ecosystem processes and components. This integration allows development of coordinated sampling designs and assessments that serve multiple or complementary objectives, and is intended to improve the understanding of qualitative and quantitative functional relationships associated with the mainstem Trinity River.

The IAP framework focuses on six key elements; each of these would be integrated into the Mitigation Monitoring and Reporting Plan (MMRP) to ensure that authorized activities are consistent with the AEAM. Key elements of the IAP include:

1. Create and maintain spatially complex channel morphology.
2. Increase/improve habitats for freshwater life stages of anadromous fish to the extent necessary to meet or exceed production goals.
3. Restore and maintain natural production of anadromous fish populations.
4. Restore and sustain the natural production of anadromous fish populations downstream of Lewiston Dam to pre-dam levels to facilitate dependent tribal, commercial, and sport fisheries' full participation in the benefits of restoration via enhanced harvest opportunities.
5. Establish and maintain riparian vegetation that supports fish and wildlife.
6. Rehabilitate and protect wildlife habitats and maintain or enhance wildlife populations following implementation.

Additional information on the IAP is available on the TRRP website:

<http://www.trrp.net/science/IAP.htm>

## Design Elements

Attachment 1 following the appendices in Volume IV of the Trinity River Master EIR is a glossary of design and construction terms for use by the design team.

## HYDRAULICS

The Proposed Project would occur in areas that FEMA has designated as Special Hazard Zones AE and X, as described in Section 3.2 of this document. In the Zone AE areas, Reclamation has established a design criterion stating that not only would the County's floodplain ordinance be followed, but implementation of the Proposed Project would not increase the flood risk for the community. This criterion resulted in a stipulation that coarse sediment and excavated material would be strategically placed to ensure that 100-year flood elevations would not increase over current conditions. As previously described, the site boundaries generally conform to the river corridor, bounded by prominent geographic features such as roads and fences.

The design of the activity areas was based on an understanding of the relationships between the flow regime and the hydrologic/hydraulic characteristics of the action. A fundamental constraint was to *do nothing to increase the flood risk in the general vicinity, and to not raise the water surface elevation above the current FEMA estimated 100-year base flood elevation*. Evaluation of the Proposed Project requires comparing estimated seasonal base flows and estimated return-period flows. USACE's Hydraulic Engineering Center River Analysis System (HEC-RAS) hydraulic model would be used by the design team during final design activities to predict changes in flood elevations at various points along the project reach. Table A-2 lists the components of the flow regime, the seasonal or other periodic return intervals, and the flow rates that would be used during final design to ensure that the action meets the flood constraints described above.

Table A-2. Estimated Mainstem Trinity River Flow Conditions Used for Design.		
FLOW DESCRIPTION	FLOW EVENT	FLOW RATE (CFS)
Summer base flow <sup>a</sup> (July 22 to October 15 of each year)	Q <sub>s</sub>	450
1.5-year return interval design flow	Q <sub>1.5</sub>	6,000
Estimated FEMA 100-year flow below Rush Creek	Q <sub>100</sub>	19,300
Estimated FEMA 100-year flow below Grass Valley Creek	Q <sub>100</sub>	23,600

<sup>a</sup> Base flow defined as cfs from TRD release and accretion flow  
Q=return interval

A HEC-RAS model for the Trinity River from Lewiston Dam to the North Fork Trinity River was developed by DWR and provided to the TRRP as part of the administrative record. This model was calibrated to match measured water-surface elevations (WSEs) in the Trinity River within and adjacent to the site boundaries for the design flow. Since WSEs have not been measured (validated) for the 100-year flow, the predicted WSEs are based on the output of the model using carefully selected Manning's "n" values that reflect the overbank conditions at

each site. The model incorporates empirical data from surveyed cross-sections, including bathymetric and overbank/floodplain topography in the general vicinity of the rehabilitation sites. To obtain WSEs for design flows, the model was calibrated using surveyed WSEs and known flows (from gage data). The model was determined to be accurate for the level of evaluation and design required.

There are several significant flow conditions that are important to the design of the Proposed Project. Two of the most important flow conditions are summertime low flows of about 450 cfs, which is the release from Lewiston Dam, and the 1.5-year-event (ordinary high water) flow of 6,000 cfs, as measured below Rush Creek. The design team regards the design flows portrayed in Table A-1 as the “best available information” per FEMA requirements. The FEMA Q100 “near Douglas City” (38,500 cfs) was established in the 1976 USACE report (USACE 1976) used by FEMA to develop the current FIRMs for the Trinity River. The 6,000 cfs 1.5-year event is based on the ROD flow release. This flow information provides the basis for the designs incorporated into the Proposed Project.

The HEC-RAS hydraulic model was developed and calibrated for the existing conditions to calculate the WSE at various flow releases. The calibration was based on water-surface profiles surveyed at low flow and water profiles and points surveyed at different flows, ranging from 4,500 cfs to 10,000 cfs releases from Lewiston Dam. After the model was properly calibrated, various WSEs were determined for the activity areas and used to develop the design topography. The illustrations at the end of this chapter portray the design topography concepts. The final designs would ensure that constructed surfaces are self-draining in order to minimize potential fish stranding.

### **ROADWAY APPROACHES**

As an alternative to disposing of excavated materials onsite, materials may be hauled to commercially approved off-site locations. This option would reduce the impact of spoiling excavated materials in upland habitats. Hauling a portion of excavated materials generated under the Proposed Project could require substantial truck traffic to off-site locations. The traffic would be staged over the project duration, generally between August 1 and November 15. Traffic control measures would be applied in accordance with BLM, Trinity County, and Caltrans requirements.

### **RECREATION FACILITIES**

As appropriate, recreation facilities (e.g., parking areas, access trails, picnic areas) affected by project activities would be returned to the same level of service as those offered prior to project implementation. Reclamation, in consultation with the BLM, DWR, and CDFG, could enhance one or more of these facilities consistent with project objectives. Examples of enhancement could be updated signage, surfacing of trails or parking areas with permeable materials, improvements to fishing access locations or establishment of interpretive features intended to increase public awareness of the ongoing efforts to restore the Trinity River.

### **DRAINAGE**

As appropriate, culverts or other drainage structures would be constructed at temporary stream crossings or cross-drainage channels to allow for unimpeded surface drainage.

## **RIGHTS-OF-WAY/EASEMENTS**

Prior to construction, formal realty agreements would be made between Reclamation; land managers for BLM, DWR, and CDFG; and private landowners whose property would be affected. These agreements would clarify the terms and conditions under which Reclamation would work on private property. In addition, these agreements would compensate landowners, based on fair market value of identified construction easements, and would hold property owners harmless during construction activities.

## **UTILITIES**

There are a number of utility features located within and/or adjacent to the site boundaries. Water intakes, power and telephone poles, and water supply lines parallel or cross the Trinity River in a number of locations. These utilities are considered in the project design to ensure that service would not be disrupted.

## **Construction Criteria and Methods**

### **CONSTRUCTION PROCESS OVERVIEW**

- Vegetation removal would occur as necessary and in compliance with all regulatory requirements. An expected August 1 start date for clearing and grubbing of vegetation would allow completion of nesting by avian species. Alternatively, vegetation may be removed prior to the start of the nesting season, which is early March for this area.
- Where available, existing roads (activity M) would be used to access the activity areas. New access roads (activity N) and haul routes would be constructed when necessary and restored to a stable condition in accordance with landowner requirements at the completion of the project.
- Excavation would begin on the floodplain to bring it down to grade.
- When specified, finer grained materials (e.g., sand) excavated from riverine activity areas may be stockpiled for use at upland or other riverine activity areas.
- Any riverine treatment areas (e.g., constructed inundation surfaces) that have been compacted from construction activities would be ripped to a depth of approximately 18 inches. The furrows developed by this ripping would ensure that most storm water runoff is retained and filtered on-site so that there is little or no construction-related turbidity. This action would effectively control the release of storm water runoff and turbidity from the site and eliminate the need for use of post-construction sediment-control measures (e.g., silt fences, berms).
- The timing for work adjacent to the river may be affected by river flows. If for some reason the flow is low when construction starts, but it is anticipated that flows would increase before the floodplain can be excavated, excavation would occur at the lower elevations (adjacent to river) first and at the higher floodplain elevations last.
- In-channel activities would generally take place during low flows (July 15 to September 15 as allowed by the coho salmon in-river work window in NMFS' 2000 Trinity River biological opinion) to create immediate point bars and allow mobilization of in-channel materials at high flows.
- Alcoves and side channels would be constructed from the existing grade down slope. Measures would be taken (e.g., sediment plug, sandbags) to isolate the work area from

flowing water. If necessary, pumps would be used to dewater the excavation to inhibit any sediment from entering the river. Typically, reconnecting these features to the river relies on high-flow events. If necessary, the TRRP would remove materials used to isolate these side channels after they have been constructed.

- Final grading would occur as necessary for all activity areas.
- Demobilization of construction equipment and site clean-up would be accomplished consistent with Reclamation requirements.
- Revegetation would take place during wet conditions (fall/winter) and would generally occur in riparian areas to maximize use by fish and wildlife species. Projects would be designed and implemented to achieve no net loss in riparian vegetation (within the project site boundaries) from planting and natural revegetation consistent with the Draft Riparian Revegetation Plan.

#### **IN-RIVER CONSTRUCTION**

- Where necessary, heavy equipment would be used to grub tree and shrub roots from the edge of the river. Vegetation would often be maintained along the river's active channel to maintain the currently available low-water fish habitat. During root removal, equipment chassis would generally not enter the low-water river channel.
- In-river excavation would generally begin at the far edge of the activity area and work back toward the riverbank so that heavy equipment is on dry land or in shallow water.
- In-river materials or coffer dams may be used to temporarily redirect flow around work areas and to create platforms from which to work. In addition to providing the means for volitional fish passage (upstream and downstream), at least one navigable (by raft/boat) passage through the activity area would remain open at all times.

#### **TRAFFIC CONTROL/DETOUR**

Short-term traffic control is expected and would be in conformance with the following requirements established by the appropriate jurisdictional authority for mobilization and demobilization of heavy equipment or wide-load vehicles:

- Reclamation would coordinate with jurisdictional agencies to identify specific requirements that shall be included for use of existing roadways and haul routes. Requirements may include seasonal or other limitations or restrictions, payment of excess size and weight fees, and posting of bonds conditioned upon repair of damage.
- Temporary construction access may be required; access routes shall be of a width and load-bearing capacity to provide unimpeded traffic for construction purposes.

#### **STAGING AREAS**

Staging areas and storage facilities for the Proposed Project are shown on Figures 4, 5, and 6. These areas would be used throughout the duration of the project activities. Some short-term staging and equipment storage and parking would be needed in the activity areas as the project is implemented.

#### **AIR POLLUTION AND DUST CONTROL**

Efforts would be made to minimize air pollution and reduce greenhouse gas emissions related to construction operations. Reclamation specifications require that the contractor comply with

all applicable air pollution control rules, regulations, ordinances, and statutes. In addition, project contractors would be given educational material about fuel efficiency and the benefits of using vehicles powered by alternative energy sources to enhance awareness of global warming issues. Contractors would also be required to provide recycling bins for on-site waste materials.

Contract documents would also specify that the contractor would be responsible for limiting dust by watering construction site areas used by trucks and vehicles. If water is taken from the river, pump intakes would be in conformance with criteria established by NMFS and CDFG to prevent impacts to aquatic organisms. Make-up water pumped from the river would pass through a screen at the inlet with maximum ¼-inch openings and a maximum intake velocity of 0.8 fps.

#### **FIRE PROTECTION AND PREVENTION**

Due to the high fire hazard and history of equipment-caused fires in Trinity County, construction contractors would be required to follow applicable regulations of Public Resource Code 4428-4442 during dry periods to minimize the potential for the initiation and spread of fires from the work site.

#### **WATER POLLUTION PREVENTION**

Reclamation would implement water pollution control measures that conform to applicable and appropriate permits. Reclamation would require the contractor to use extreme care to prevent construction dirt, debris, storm water run-off, and miscellaneous byproducts from entering the stream. Some key water pollution control measures that would be implemented by Reclamation are listed below:

- Every reasonable precaution would be exercised and BMPs would be implemented to protect the Trinity River from being polluted by fuels, oils, petroleum byproducts, and other harmful materials and shall conduct and schedule operations to avoid or minimize muddying and silting of the river. Care shall be exercised to preserve roadside vegetation beyond the limits of construction.
- Construction equipment would be cleaned of dirt and grease prior to any in-channel activities. All construction equipment would be inspected daily and maintained to ensure that fuel or lubricants do not contaminate the Trinity River. Spill containment kits would be onsite at all times and, where feasible, berms or other containment methods would be kept in place around the work areas when performing in-channel work.
- Water pollution control work is intended to provide prevention, control, and abatement of water pollution in the Trinity River, and would consist of constructing those facilities that may be shown on the plans, specified herein or in the special provisions, or directed by the Contracting Officer.
- Furrowing of riparian areas that have been compacted during construction activity is expected to minimize or stop delivery of storm water runoff to the river. As necessary, Reclamation would provide temporary water pollution control measures, including, but not limited to, dikes, basins, ditches, and straw and seed application, that may become necessary as a result of the contractor's operations.

- Before starting any work on the project, Reclamation would develop an agency-approved SWPPP to effectively control water pollution during construction of the project. The SWPPP would show the schedule for the erosion control work included in the contract and for all water pollution control measures Reclamation proposes to take in connection with construction of the project to minimize the effects of the operations on adjacent streams and other bodies of water. Reclamation would not perform any clearing and grubbing or earthwork on the project until the SWPPP has been accepted by responsible agencies.
- Oily or greasy substances originating from Reclamation's operations would not be allowed to enter, or be placed where they would later enter, a live stream, soil, or groundwater.